FLIGHT

The AIRCRAFT ENGINEER & AIRSHIPS

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Founder and Editor : STANLEY SPOONER

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"FLIGHT" PHOTOGRAPHS.

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list :—

1927

Sept.	30	Entries Close for Edward Busk Memorial Prize (R.Ae.S.)
Oct.	1	Reunion Supper at "White Horse Hotel," Holborn, of 28 Sqdn. (R.A.F.) Old Boys' Assoc.
Oct.	6	"Aviation." Mr. F. Handley Page, before R.Ae.S. and I.Ae.E.
Oct.	13	"The Practical Side of Performance Testing of Aircraft." Sqdn.-Ldr. T. H. England, before R.Ae.S. and I.Ae.E.
Oct.	20	Aero Golfing Soc. (Cellon Cup), Walton Heath.
Oct.	20	"Safety Devices for Aircraft." Mr. M. L. Bramson, before R.Ae.S. and I.Ae.E.
Nov.	3	Joint Meeting. "High Speed Compression Ignition Engine Research." Mr. H. B. Taylor, before R.Ae.S. and I.Ae.E.
Nov.	17	"The use of the Wind Tunnel in the Prediction of Aeroplane Performance." Mr. R. K. Pierson, before R.Ae.S. and I.Ae.E.
Nov.	24	"Modern Developments in Aircraft Instruments." Maj. C. J. Stewart, before R.Ae.S. and I.Ae.E.

EDITORIAL COMMENT.



MONDAY, September 26, 1927, will forever remain a red-letter day in the history of British aviation. Not only was the Schneider Trophy Race for seaplanes won by Great Britain on that day, but it was won at a speed which exceeded the world's record speed for landplanes over the short, straight-line course. When it is considered that the weight and head resistance of a pair of floats are very much greater than the corresponding figures for a landplane undercarriage, it becomes possible to form some idea of what British designers have achieved in their Schneider machines. Moreover, the Schneider course was a triangular one, with two corners demanding very sharp turns, whereas the straight-line course used for landplane speed records enables a machine to go "all-out" during the whole time its speed is being measured. Bearing in mind all these facts, the British Schneider Race performances are truly remarkable. One has considerable difficulty in refraining from a liberal use of superlatives in referring to the British victory at Venice, but all that need be said is that the British engines, machines and pilots did better than well. They did splendidly. And the result of the race cannot fail to increase British prestige abroad to a very marked extent. But for the relatively trivial mishap of a spinner coming off, a mishap which does not, of course, reflect adversely upon either engine or machine, all three British starters would undoubtedly have finished the complete course. As it was, a percentage of 66·6 is remarkably good for a race of this nature.

The Schneider Race

While rejoicing in the British victory, all our readers will, we are certain, join with us in an expression of sincere regret that all three Italian machines failed to complete the course. The Italian victory in the previous Schneider Race was such a magnificent performance, and represented such astounding progress in the course of one year, that everyone wished the Macchi firm the best of luck this year. That they were unable to complete the course robbed the race of much of its interest, and although, from the lap speeds put up until forced to abandon the race, it is

permissible to assume that they could not possibly have beaten the British machines, none of Britain's representatives, nor the British public, desired victory by a "walk-over." However, the fates decreed otherwise, and the two Supermarine S.5 monoplanes were the only machines to complete the course.

In commenting recently on the Schneider race, we expressed the view that probably a geared engine machine would be put in as first string, and that it was likely to be slightly faster than the machine with ungeared engine, but that, as the gear must necessarily represent an extra complication, no matter how relatively small, it was conceivable that the second string, the machine with the direct-drive engine, might prove more reliable. In point of fact, the winning machine, piloted by Flight-Lieut. Webster, was fitted with the geared Napier engine, and his victory at such terrific speed is proof that Napier's have managed to produce not only a direct-drive racing engine which is reliable, but also, which is perhaps the more remarkable, a geared engine with the same reliability and the greater efficiency resulting from higher power and better propeller efficiency. The direct-drive engine in Worsley's S.5 also behaved as one would expect a Napier engine to do, and as the mishap to the Gloster biplane was certainly not an engine fault, it can justly be claimed that all three Napier engines in the race were entirely beyond reproach. That is a proud record of the firm, and especially in view of the fact that there were, some years ago, those who held that the "broad arrow" type of engine presented too great frontal area for really high speeds to be possible. It was, if we are not mistaken, at the meeting of the Royal Aeronautical Society at which Major Buchanan read his paper on the Schneider Trophy Race, that Mr. R. J. Mitchell, the designer of the Supermarine machines, concluded his remarks by the following words: "I still believe the Napier engine capable of winning the Schneider Race." Mr. Mitchell's views have now been thoroughly justified, and the "broad-arrow" engine has beaten all records.

Concerning the machines, little need be said. They have been illustrated in FLIGHT from time to time, and their general lines will therefore be familiar to our readers. The frontal area of both Supermarines and Glosters appears to be a good deal smaller than that of the Macchi monoplanes, and doubtless this fact has had a good deal to do with the superior speed of the British machines. The Fiat engine also is probably larger and heavier than the Napier, although possibly it develops more power. At the moment of writing, the precise cause of the retirement of the Italian competitors is not available, and in all fairness to the Fiat Co. one should not rashly rush to the conclusion that the engine was to blame. Installation, accessories, and a host of other things may have been responsible, and doubtless the Italians will find ways and means of attaining, when next they meet us in seaplane racing, the same reliability as that which was such a remarkable feature of the Napier engines this year.

Everyone concerned in the British victory in any way is to be congratulated on the splendid result, and in this connection it would be most unfair not to give due credit to the British Air Ministry. Things have so developed that it had become impossible to tackle the Schneider Race except on a National basis, and this year's race was a remarkable example of what can be accomplished by concerted action with Government resources behind it. It is to be hoped that the outstanding results achieved will encourage the Air Ministry to develop and extend a policy which has already borne such magnificent fruit. Or rather, perhaps, should one say that it is to be hoped that the Treasury will have become convinced that the Air Ministry policy has been amply justified, and will thus be more ready to listen to future claims.

From every angle the Schneider Trophy victory is most gratifying, and our warmest thanks and heartiest congratulations must be extended to everyone concerned.

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The "Canard" revived

Although presenting certain rather difficult problems, the "tail-first" type of machine as recently revived in Germany by the Focke-Wulf firm, whose "Ente" is described and illustrated in this issue, offers a number of interesting possibilities. So much so that it might well be worth while to examine the type in some detail by research authorities at home. It is claimed for the "Ente" that it prevents stalling, and theoretically there is every reason for accepting the claim. Moreover, as the non-stalling qualities are attained without the use of special "gadgets," merely by the dispositions of the lifting surfaces and centre of gravity, there is no extra complication, while the fact that the "tail" is a lifting surface and actually carries more load for its area than the main wing should help to offset any slight adverse effect which the "tail-first" arrangement might show.

One of the great disadvantages of the "tail-first" machine has always been the difficulty of suitably arranging the side areas, and in the Focke-Wulf "Ente" a grotesquely large fin has had to be employed. Personally, we do not regard this as being an absolute necessity. The main plane is well aft of the centre of gravity, and it seems likely that a suitable dihedral might serve as well, at any rate from a stability point of view. As regards the rudder, the normal central type used in the "Ente" probably called for large areas to make up for short leverages, but the type of rudder used by Capt. Hill in his "Pterodactyl" might, we think, offer a solution, acting as it does by its drag at a point relatively far out on the wing.

In addition to its non-stalling qualities, the "tail-first" type has certain other advantages. The front wheel can be made steerable so as to render the machine manœuvrable on the ground. The forwardly-projecting fuselage practically precludes turning over on the ground and enables powerful wheel brakes to be used.

For flying-boats the "tail-first" arrangement might have a number of advantages. For instance, the type gets off by *raising* the secondary step, whereas in the orthodox type the secondary step has to be *depressed*. In the "tail-first" machine the wings are at a negative angle when at rest, and probably mooring might be possible without any tendency to "kiting." Making full use of the maximum lift coefficient might be more easily achieved since there is no long projecting hull aft of the step to strike the water. The problems are numerous, but there seems to be a possibility that the type would repay time spent on it.

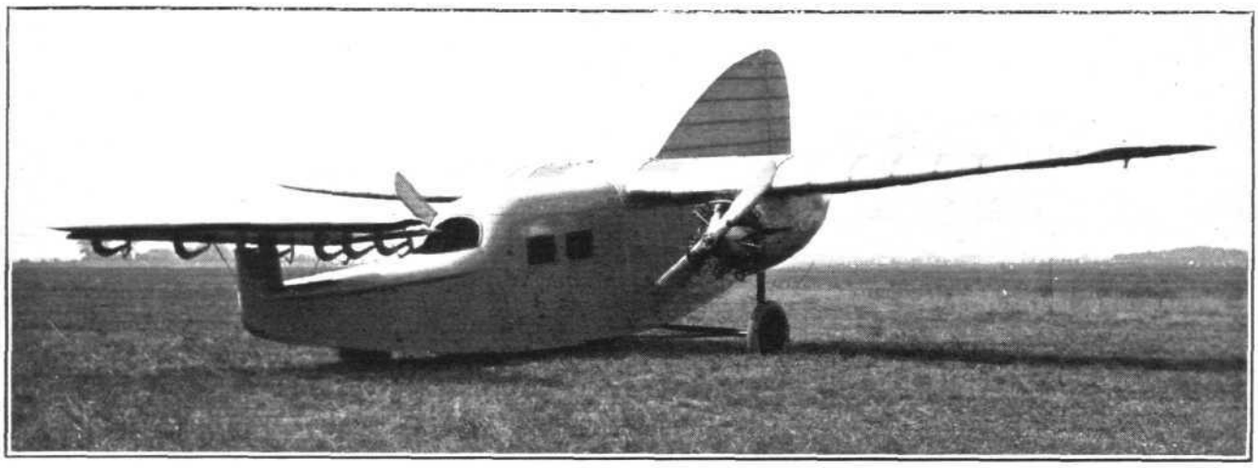
FLIGHT
AIRCRAFT ENGINEER AIRSHIP

GERMANY REVIVES "TAIL-FIRST" MACHINE

Focke-Wulf 19 Passes its Preliminary Tests Successfully

IT is a somewhat curious fact that modern times should see a reversal to the type of aeroplane which first left the ground in controlled flight, and that, by making full use of modern aerodynamic knowledge, this type, which was abandoned back in the childhood of aviation, should now be proved possessed of certain very marked advantages as compared with the type that has supplanted the original to the entire extinction of the latter.

It will possibly be news to those of our readers whose interest in aviation is of fairly recent date to learn that the first machine to fly under proper control was of the "tail-first" type. Commencing with the very early Wright gliders, the "tail-first" principle was adopted, and the first power-driven aeroplanes built and flown by the Wright Brothers were of this type. That is to say, the single engine drove two "pusher" airscrews via a chain transmission. A narrow outrigger or girder carried two vertical rudders placed side by side and but a small distance apart. The elevator was mounted ahead of the main planes on another outrigger, the pilot sitting on the leading edge of the lower main plane. The early machines were somewhat tricky to fly, and it was not long before the elevator was transferred to the back of the machine. In France also the "tail-first" principle was used in the very earliest aeroplanes. Thus M. Santos Dumont used a machine of this type for his prize-winning flight of 1906. This machine had biplane front elevator as well as biplane main wings. Owing to the fact that in those days the action of the front elevator was imperfectly understood, the machines were unstable fore and aft, and the tail-in-front arrangement gave way for the tail-behind system as it is used to-day. Actually the tail-first arrangement is capable of giving excellent fore and aft stability, provided certain precautions are taken. When, however, we come to directional stability and control the matter is less favourable, and the "Canard" type, as it used to be called in France, or "Ente" as it is termed in Germany, suffers from certain serious drawbacks. Before referring to these it may be of interest to examine briefly how the "Canard" or "Ente" obtains its longitudinal stability.



THE FOCKE-WULF "ENTE": Three-quarter front view. Note the negative angle of incidence when the front wheel is on the ground.

It is, of course, well-known that an aeroplane wing reaches a certain maximum lift at some particular angle of incidence, the angle depending partly on the wing section used. If that angle is exceeded the lift begins to fall off, rapidly with some wing sections, less suddenly with others. It is this fundamental principle which is made use of in the tail-first wing arrangement. It will be seen that if the same wing section



THE FOCKE-WULF "ENTE": Three-quarter rear view. To get the side areas correct, a very large fin is necessary.

is used both for the main plane and for the front plane or elevator, and the centre of gravity of the machine is so arranged that the front plane carries a slightly greater load per unit of area than does the main plane, then, to give equilibrium, the front plane must always be set at a slightly greater angle of incidence than the main plane. (Over the greater portion of its useful range of angles, the normal wing section shows a lift coefficient which is approximately proportional to the angle of incidence). For any particular combination of angles and wing loadings there is a certain definite speed, and a machine having this arrangement will be stable. Thus if the engine is throttled down, the nose will drop and the machine will take up its proper gliding angle for that incidence setting. If, on the other hand, the engine is opened from cruising throttle to full throttle, and the front elevator is left at the same setting, the machine will automatically climb. (We are not, of course, now taking into consideration machines in which the centre of thrust differs widely from the centre of resistance). Almost the same takes place in the " tail-behind " arrangement if it is stable, but at the stalling angle the difference between the " tail-first " and " tail-behind " system becomes more pronounced.



The Focke-Wulf " Ente ": View of the port engine and undercarriage. Note also the petrol tanks in the leading edge.

Let it be assumed that front elevator and main plane reach their maximum lift at 16 degrees incidence. If the relative setting is such that there is a difference of 4 degrees between front and rear plane, with the former at the larger angle, then it is obvious that the front plane stalls when it has reached 16 degrees, but that when this occurs, the main plane is still at 12 degrees incidence, *i.e.*, 4 degrees on the " right " side of the stalling angle. The front wing drops, the machine increases its speed, the front wing unstalls, and the machine commences to glide. The fundamental difference between the tail-first and tail-behind arrangements is that with the normal arrangement it is the main plane which is stalled, while in the " canard " it is the auxiliary wing. In the one case a very large percentage of lift is lost. In the other only a small percentage. Moreover, as in the tail-first machine the main lifting surface does not reach the stall, the machine *does not go into a spin*. This fact alone entitles the tail-first arrangement to some consideration.

Lest it should be assumed that the tail-first principle is *necessarily* fool-proof, it should be pointed out that it *is* possible to arrange the two wings in such a manner that the longitudinal stability suffers. For instance, if the main wing section has a large travel of the centre of pressure, and the front section is very heavily loaded and with a sudden stall, trouble may arise. For a given machine, it is, however, possible so to arrange matters that perfect fore and aft stability is attained. It would seem that a fairly gentle lift curve in the region of the stall is desirable for the front elevator, and it appears likely that it is this which has caused the designers of the Focke-Wulf firm to adopt the Handley Page-Lachmann slot for the front elevator. In the early Wright machine the trouble probably was that the front elevator was too small and insufficiently loaded, making the machine too sensitive. It is not intended here to go deeply into the subject, as this would lead to technicalities outside the scope of this article, but it may be pointed out that there are definite limits to the difference in angle and loading of the two planes, too heavy a loading of the front plane reducing the possible speed range, and too small a difference in loading and angle reducing the stability. A compromise between the two extremes has to be found.

As regards the difficulties connected with directional stability in a tail-first machine, this is a matter of fin areas in relation to the centre of gravity, and it will be observed that the new German machine has a very large fin indeed, and a fairly large rudder. It is claimed that this has effectively cured any directional instability, and it seems possible that there are other ways in which the desired result could have been obtained without such a large vertical surface at the back.

With these general and elementary considerations of the subject of the tail-first machine, written mainly for the benefit of those of our readers who have not given the matter much thought, let us see how the problems have been attacked in the modern machine incorporating the " canard " arrangement.

The Focke-Wulf F. 19 " Ente "

The modern aeroplane, which has given rise to the revival of the subject of the tail-first arrangement, is the F.19, designed and built by the Focke-Wulf Company, of Bremen. Before proceeding to the actual construction of the machine, a model was very thoroughly tested in the wind tunnel at Göttingen, and an arrangement was evolved which proved perfectly stable around all three axes, *i.e.*, longitudinally, laterally and directionally. Not until then was the work put in hand, but the actual machine has now been finished and has passed its preliminary test flights, which appeared to bear out all the

Göttingen results. That more searching tests may reveal certain vices in the machine is still a possibility, although at present there is no cause for believing that such will be the case. The wind tunnel tests indicated that the new machine cannot be stalled, and so far the full-scale appears to confirm this.

The " Ente " (duck) had been ready for some time, but unfavourable weather delayed the first test flight until September 2. On that date, the machine was brought out, the two Siemens engines run up, and the machine prepared for flight. On this first test flight, the empty weight of the machine was 1,155 kgs. (2,530 lbs.), and the flying weight 1,405 kgs. (3,090 lbs.). The angles of incidence of main plane and front plane, as well as the location of the centre of gravity, were carefully arranged to tally exactly with the Göttingen values. Herr Wulf took his seat in the machine, the chocks were removed and the engines opened out. The machine accelerated quickly, still maintaining its negative incidence. After a run of about 200 m., during which the controls were tested, the pilot pulled the control back, and the front wheel left the ground. Pulling very gently at first, and later a little stronger, the pilot soon had the machine in the air. Keeping it low to gain speed, he presently rose, gently at first, but later, as all seemed in order, more steeply, and before long the " Ente " was at 500 ft. Next a turn was attempted ; this also was perfectly normal, and increasing the turn to quite a short one, the pilot passed over his starting point at about 600 ft., waving his hands to show that the machine would fly itself. He then flew over the town and made several left and right-hand turns, some of which were carried out by tilting the front 'plane around its longitudinal axis. The landing also was made without a hitch, although, owing to a defect in the wheel brakes, the run before coming to a standstill was rather long. The airspeed indicator fitted was not above suspicion, but experts who watched the flight estimated the speed to be approximately 140 km./hour (87 m.p.h.), which is about the designed speed. The pilot reported good stability around all three axes, and also that the control surfaces acted promptly and powerfully.

General Construction

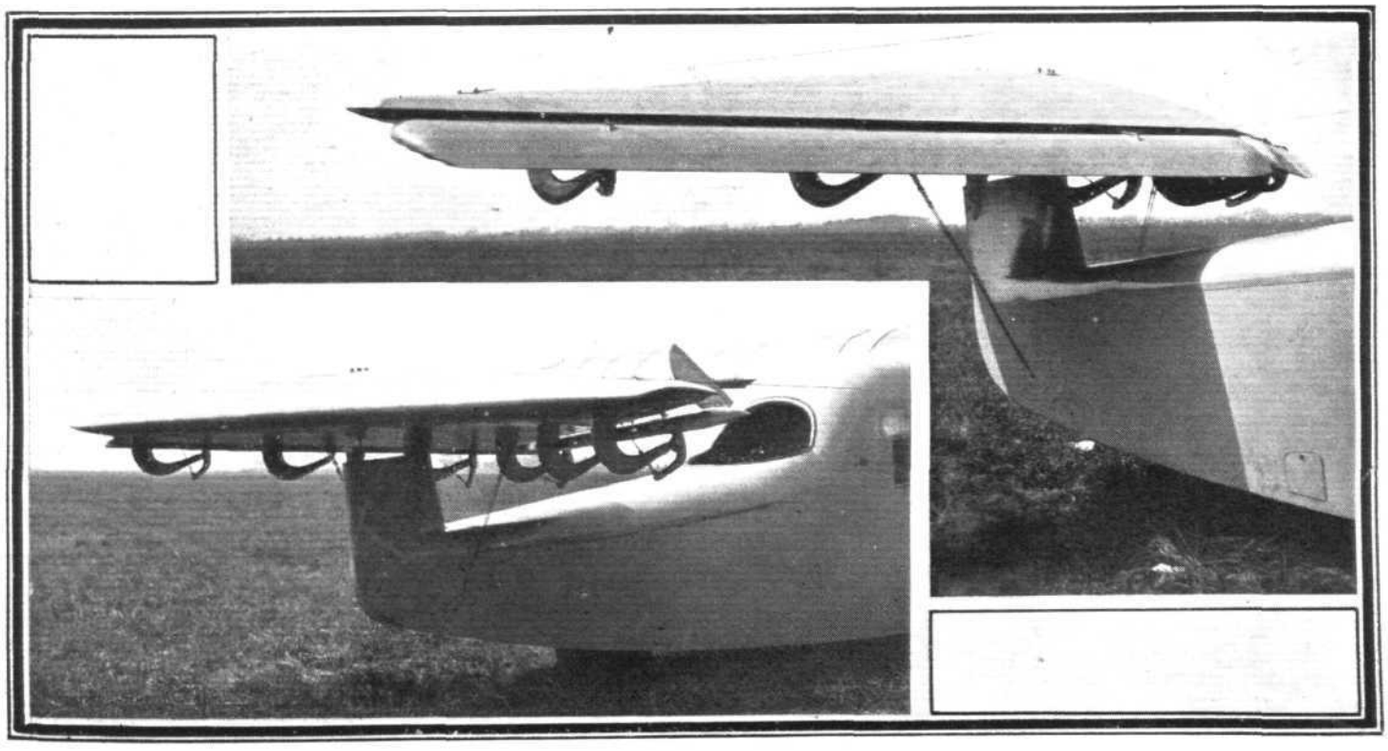
In the matter of constructional features, the F. 19 follows closely the normal practice of the Focke-Wulf Aircraft Works. The fuselage is a ply-wood covered structure of the type used as standard by this firm, and structurally shows no difference from the fuselage of the types A. 16 and A. 16a, etc. Its shape is, of course, altered to conform to the new conditions. The monoplane wing is, both in its sections, plan form, etc., identical with that of the A. 16 ; the only difference is that certain small changes in angles of incidence (the wing is not uniform) have been made. The structure is an all-wood one, with box spars. The front wing or " tail " plane shows a pronounced taper in chord and thickness, and the elevator flaps are hinged to the fixed plane in a somewhat peculiar manner on large external cranks. It appears from the photographs that some form of aileron slot action is incorporated, but the exact nature of this cannot be ascertained. There is little doubt that a neater arrangement could easily be designed, and, doubtless, this will be done in later machines, this first " Ente " being purely an experimental type. The front plane is so mounted that it can be rocked laterally around a longitudinal axis. In this manner it is made to assist the rudder, and this feature is chiefly intended for use when one engine cuts out.

The undercarriage consists of vertical telescopic legs attached at the top to the wing, and at the lower end to the

(*Concluded on page* 690.)

The main characteristics other than dimensions, of which none are available, of the Focke-Wulf " Ente " are :

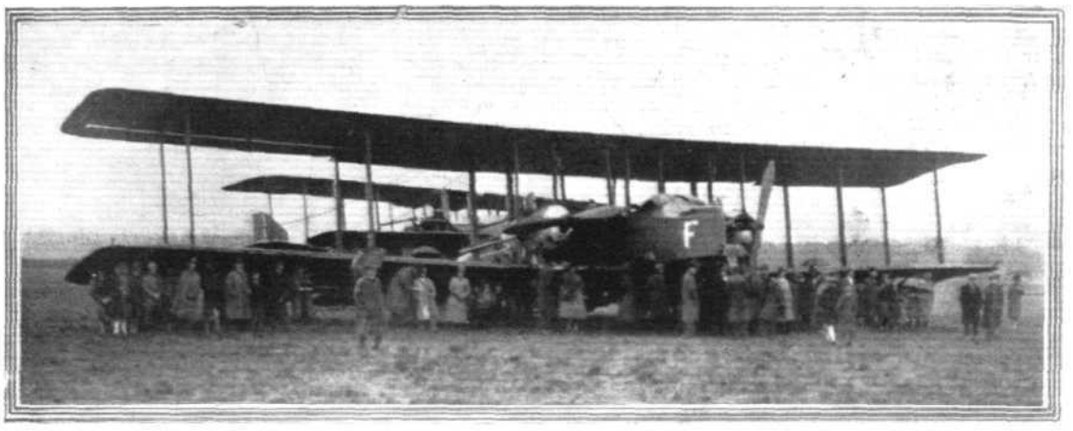
Power Unit		
2 Siemens Sh 11 engines	290 kg.	(638 lbs.)
Engine starter	3 ,,	(7 ,,)
2 airscrews with bosses	30 ,,	(66 ,,)
2 petrol tanks (20 gals. each)	24 ,,	(53 ,,)
2 oil tanks (2·7 gals. each)	6 ,,	(13 ,,)
Engine equipment, accessories, etc.	27 ,,	(59 ,,)
Total	380 ,,	(836 ,,)
The Machine		
Fuselage and cabin	330 ,,	(730 ,,)
Fuselage equipment	25 ,,	(55 ,,)
Controls	17 ,,	(37 ,,)
Fin and rudder	13 ,,	(29 ,,)
Wing, with flaps and engine supports	240 ,,	(528 ,,)
Front plane with elevator	60 ,,	(132 ,,)
Main undercarriage	60 ,,	(132 ,,)
Front wheel with springing	15 ,,	(33 ,,)
Machine weight	760 ,,	1,676 ,,)
Total weight empty	1,140 ,,	2,512 ,,
Useful Load		
Petrol and oil for 3 hrs.	140 ,,	(308 ,,)
Pilot	80 ,,	(176 ,,)
	220 ,,	(484 ,,)
Pay load : 3 passengers	230 ,,	(506 ,,)
Total load	450 ,,	(990 ,,)
Total loaded weight	1,590 ,,	(3,502 ,,)



THE FOCKE-WULF " ENTE " : Two views of the front wing. Note that the elevator is so hinged as to give a slot action.

THE HOOTON AIR PAGEANT

ON Saturday, September 24, an air pageant was held at Hooton Aerodrome, Cheshire. It was organised by the Liverpool Organisation in conjunction with the Lancashire Aero Club, and was a popular part of the arrangements for Liverpool's Civic Week. A very complete programme had been made, and it was gallantly carried through, in face of wretched weather, with the exception of one or two items. After the day had commenced with unusual promise it changed to its normal rainy condition just at the very beginning of the meeting and remained so until the end. Naturally, there was not the enormous crowd of 100,000 or so that had been expected and which would have undoubtedly arrived. But even then, those enthusiasts who braved the elements were well compensated from an aeronautical point of view, for the considerable number of well-known pilots, Service pilots and private owners carried out unstintingly practically all that the programme scheduled them to do with full enthusiasm.



Hooton Air Pageant: This Vickers' "Virginia" was very useful to many spectators for sheltering from the incessant rain that tried its hardest to wash out the Pageant, but failed.

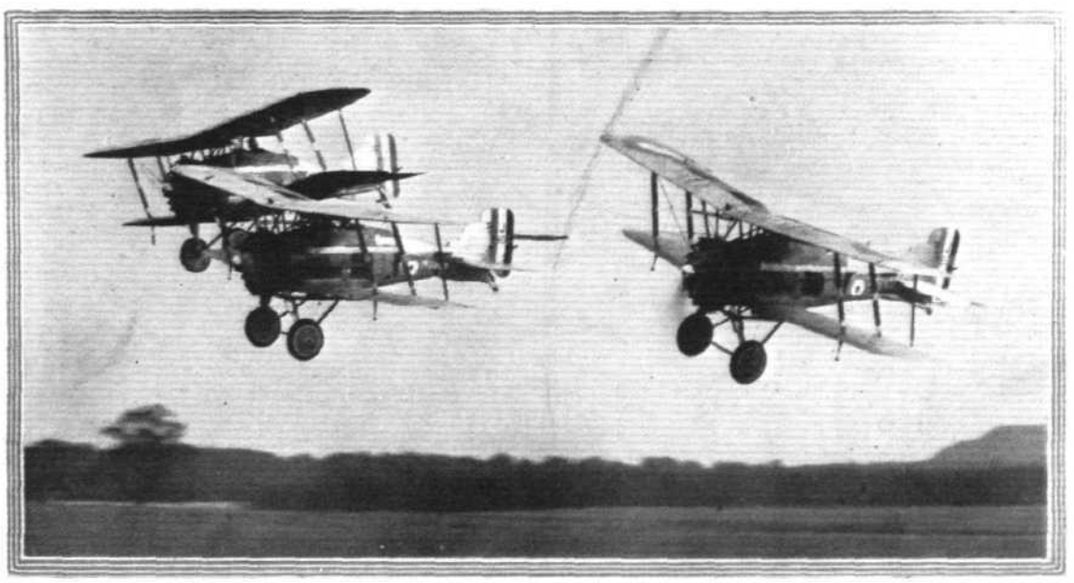
["FLIGHT" *Photo.*

EVENTS

Landing Competition.—This event commenced at 2 p.m. A short temporary fence was erected in the middle of the aerodrome, and a few flags were stuck in the ground at intervals beyond it. Marks were awarded for the style of landing and for the shortest distance measured from the fence to the rudders of the competing machines on their coming to rest. The conditions were rather difficult owing to a cross wind. There were three competitors, Mr. R. R. Williams on the Lancashire Club's Moth "MQ," Mr. J. F. Costa on the same machine, and Mr. Will Hay on the London Club's Moth "MF." Mr. Will Hay made a spectacular side-slip landing just over the fence and was the winner; second being Mr. Costa. This landing competition was open to all clubs for Sir Charles Wakefield's Trophy and stakes amounting to £30. The first prize was £15, second, £10; and the third prize of £5 was only offered if there were four or more entrants.

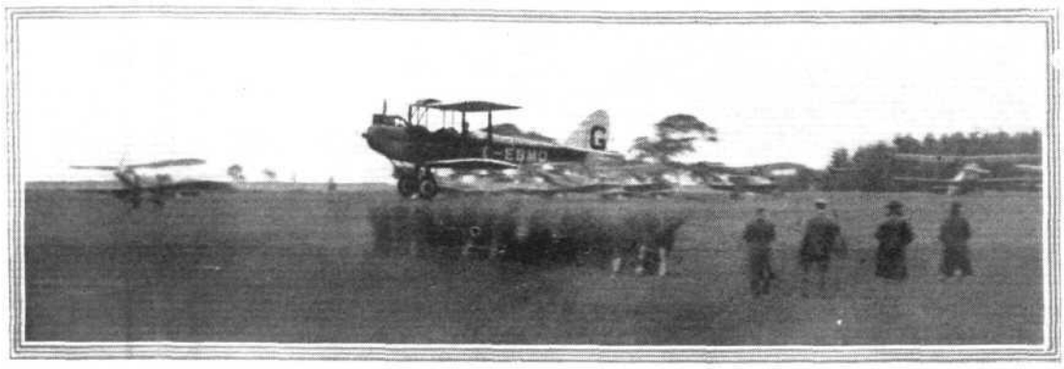
Hooton Park Handicap.—This was the next item held for stakes amounting to £45, presented by Col. J. J. Shute, C.M.G., D.S.O. It was open to machines fitted with a Mk. I. Cirrus engine. There were two laps of the short course made, the turning points being Eastham Church, Hooton Station, and the gasometer, and the distance equalled 11½ miles. At the end of the first lap Capt. McDonough led on the Moth "LW", very closely followed by Capt. Sparks on Moth "MF"; then came Capt. Hope on Moth "MV", and Mr. Scholes on Moth "MQ." In the final lap, Capt. Sparks led Capt. McDonough by 6 secs.; Capt. Hope was third, coming in comparatively high about 21 secs. after the winner. Capt. Sparks' time was 8·27 secs., and his speed 82½ m.p.h. He was scratch man according to programme. The prizes were, first, £30; second, £10; and third, £5.

High Power Handicap.—This race was for the Liverpool Civic Week Cup and Stakes (£100), presented by the Lord Mayor of Liverpool. It was for machines with engines developing not less than 100 h.p. at maximum permissible revolutions per minute, and was flown over the long course of approximately 30 miles. The turning points were Old Leasowe Lighthouse on the coast, Shotwick Aerodrome, Little Sutton gasometer, and round the lake on the aerodrome. Mrs. Eliott-Lynn started from scratch on her S.E.5a and won from Capt. Sparks on S.E.5 "TO" (handicap 1 min. 21 secs.) in a thrilling finish by 3 sec. Her time was 23 mins. 24 secs., and her speed, 117¾ m.p.h. Capt. Sparks' time was 23 mins. 24⅗ secs. Mr. John Leeming, on the Lancashire Club's Avro "OK" (handicap 6 mins. 50 secs.), was third, his time being 24 mins. 11 secs. Mr. Brown, on the Alpha-Avian "SD" (handicap 1 min. 40 secs.), was fourth. Prizes:—1st.—Liverpool Cup (valued £50) and £50 cash; 2nd, £30, 3rd, £20.



Hooton Air Pageant: Three Gloucester "Gamecocks" of No. 23 (Fighter) Squadron flying past the enclosures in very close formation. They gave a thrilling show of air fighting and aerobatics.

["FLIGHT" *Photo.*



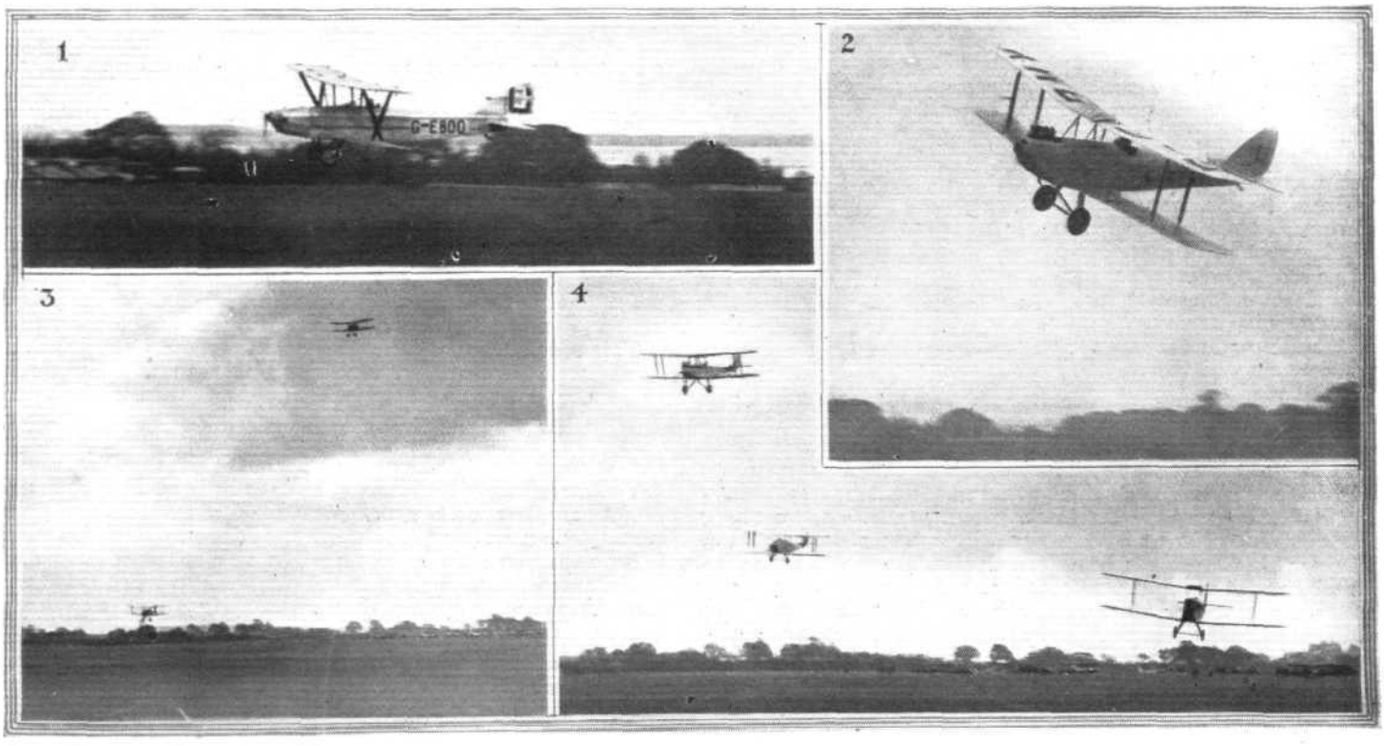
Hooton Air Pageant : Mr. R. Williams dropping over the temporary fence in the landing competition on Moth "MQ". His fellow club member, Mr. Costa, tried on the same machine, and got second place to Mr. Will Hay.

Aerobatics.—This exhibition by Capt. T. Neville Stack, the test pilot, took place whilst the High Power Handicap was in progress, and was very interesting to watch. He performed all his evolutions at a very low altitude over the aerodrome, and therefore gave the thrilled spectators a very clear view. He flew a very smart looking Moth "UA," and ran through the repertoire of stunts efficiently. He described low loops, climbing turns, sideways flying, and stalling. On landing, just before the finish of the big race, he received a deserved ovation from the enclosure.

Parachute Descent.—This was made next by Miss June, with a "Guardian Angel" parachute, manufactured by Messrs. E. R. Calthrops Aerial Patents, Ltd. She went up in an Avro, and when it was flying away from the aerodrome at an altitude of about 1,000 ft., she was seen standing on the side of the cockpit with the parachute container dangling below the fuselage. Suddenly she fell, and the parachute very quickly ballooned out and floated gently and obliquely over the aerodrome towards the earth, landing Miss June exactly in the middle of the field. The feat was remarkably well judged, for the landing area was, in a sense, restricted, being between the River Mersey and the aerodrome hangars, etc. The wind, too, was blowing towards the river. Miss June was heartily congratulated by the Lord Mayor of Liverpool and other Civic officials.

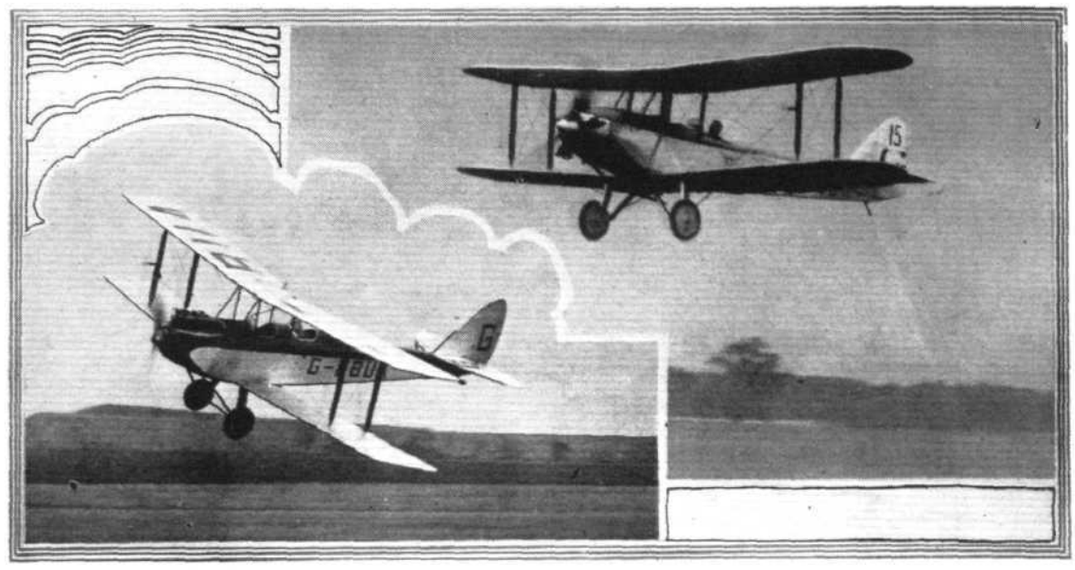
Event 6.—This was to have been an attempt by Mrs. Eliott-Lynn to beat the existing height record for light aeroplanes, at present held by Lady Bailey. She was to have flown an Avro "Alpha-Avian," G-EBSD. The weather, however, forced her to abandon the attempt. Rain was still pouring down pitilessly, and the clouds were sweeping across the country at a very low height.

R.A.F Display.—The R.A.F. put up a fine display. They had come with a fine variety of machines and a large personnel under Wing Commander P. Babington, M.C., A.F.C., who was also one of the judges. The firing of a maroon announced the commencement, and the first item was the parade. Three Gloucester "Gamecocks" (Jupiter VI, 450 h.p. engine) headed this in single file, and they seemed to pass by with a springing movement, and ready to lift on the slightest provocation. Then followed an Avro-Lynx, a Sopwith "Snipe" (200 h.p. Bentley), three Bristol Fighters (265 h.p. Falcon), the black-nosed Hawker "Horsley" (670 h.p. Condor) looking so neat and tidy, then a dark green sombre-looking Handley Page "Hyderabad" (2 Napier-Lions of 450 h.p.) with a prominent crew. A Vickers "Virginia" (2 Napier-Lions of 450 h.p.) did not enter this parade although present, and, in fact, it sat quiet and peaceful at the end of the enclosure all the afternoon, providing generous covering from the heavy rain. The Service machines then took off, and flew past conveniently low, the bouncing, nimble "Gamecocks" leading in close formation. Next there came a demonstration of flying in formation by three pilots of No. 5 Flying Training School, Sealand, who were, according to programme, Flight-Lieut. A. H. Beach, Flying Officer C. H. G. Brembridge, and Flying Officer J. A. Mollinson. They flew Bristol Fighters.



["FLIGHT" *Photographs*

HOOTON AIR PAGEANT : (1) Flt. Lt. Le Poer Trench winning the Inter-Club Members' Race on the H.A.C.I. (2) Capt. W. L. Hope winning the Low-Power Handicap on Moth "MV". (3) Mrs. Eliott-Lynn (left) on her S.E. 5a beating Capt. Sparks on S.E. 5 "TO" by ¾ secs. in the High Power Handicap. (4) Mrs. Eliott-Lynn on Avian "QL" (left), Mr. Fielding on Bluebird "SV" (middle), and Mr. Lacayo on Moth "MF" (right) coming in at the end of the first lap in Inter-Club Members' Race.



Hooton Air Pageant: Captain T. N. Stack stunting on Moth "UA" (left), and Squadron-Leader J. Noakes giving an exhibition of his famous crazy flying on an Avro Avian. He also put an Avro Gosport through his crazy tricks. These events were very popular.

"FLIGHT" *Photographs*

On an Avro-Lynx, Flying Officer J. B. Cords, also of No. 5 Training School, gave an exhibition of aerobatics, which was very thrilling. Flying Officer Mollison and Flying Officer Lingard engaged in aerial combat in a Bristol Fighter and Sopwith "Snipe," and the rattle of the machine guns and the final pretended fall of the defeated machine in flames was very realistic. It "fell" behind the thick bank of trees by the river and then crawled away over the water. Flying Officer Lingard next gave a show of upside-down flying, then Flight-Lieut. Calvey performed stunts on a "Gamecock," whilst his two fellow pilots of No. 23 Fighter Squadron tried to "down" each other on their "Gamecocks."

Inter-Club Members Race.—Flown over two laps of the short course for Mrs. J. Leeming's Challenge Cup and Stakes (£30). In the first lap, Flight-Lieut. Le Poer Trench (handicap, 2 mins. 53 secs.), on the Halton A.C.I. "00" led Mr. Twemlow, on Moth "MQ" (handicap, 2 mins 22 secs.), and Mr. Will Hay, on Moth "MF" (handicap, 2 mins. 05 secs.). In the final lap, Trench finished well ahead of the Hon. Lady Bailey on Moth "PU" (handicap, 1 min. 40 secs.). The latter, however, was disqualified, so that Mr. Rogers, on Moth "SK" (handicap, 1 min. 18 secs.), who came in third amidst a bunch of machines, was placed second; and Mr. Lacayo, on Avian "RR" (handicap, 1 min. 18 secs.), who followed, became third. The others in order of finish were:—Mrs. Eliott-Lynn, on Avian "QL" (handicap, 1 min. 01 sec.); Hay, on "MF" (handicap, 2 mins. 05 secs.); and Fielding on (Bluebird II) "SV" (handicap, 2 mins.). Twemlow, on "MQ" (handicap, 2 mins. 22 secs.) was actually sixth, but he was also disqualified. The times of the three winners were:—9 mins. 58 secs.; 10 mins. 12 secs.; 10 mins. 14 secs. Prizes:—1st, £15; 2nd, £10; and 3rd, £5.

Event 15.—Sir Alan Cobham, K.B.E., was scheduled to fly past in his famous De Havilland machine, in which he did his historic Empire flights. In this machine, he was flying all the afternoon taking up passengers.

Low-Power Handicap.—Flown over the long course of 30 miles for the Liverpool Organisation Cup and Stakes (£75). The starters were:—Mrs. Eliott-Lunn (scratch), on Avian "QL"; Dudley Watt, on Avian "RR" (handicap, 47 secs.); Scholes on Moth "MQ" (handicap, 3 mins. 34 secs.); Brown, on Avian "TU" (handicap, 23 secs.); Hon. Lady Bailey on Moth "PU" (handicap, 1 min. 51 secs.); Trench, on H.A.C.I. "00" (handicap, 4 mins. 6 secs.); Stockbridge, on Bluebird "SZ" (handicap, 2 mins. 48 secs.); McDonough, on Moth "LW" (handicap, 3 mins. 34 secs.); Fielding, on Bluebird "SV" (handicap, 2 mins. 48 secs.); Hope, on Moth "MV" (handicap, 3 mins. 03 secs.); and Martin on Moth "SK" (handicap, 47 secs.). Hope won this race on "MV." Mrs. Eliott-Lynn was second on "QL," and Brown third on "TU." Prizes:—1st, Cup (valued £50) and £40 cash; 2nd, £25; 3rd, £10.

Crazy Flying.—Sqdn.-Leader J. Noakes, A.F.C., M.M., gave his usual exhibition of crazy flying on an Avro "Gosport," and later on an Avro "Avian." It was very fascinating, humorous and clever.

Ladies' Race.—Flown for a Cup (valued £50) and purse of £40. Cup presented by Sir Charles Nall-Cain, Bt., for annual competition. Mrs. Eliott-Lynn won this on her S.E. 5a from scratch, and Miss O'Brien was second on Moth "MF" (handicap 2 mins. 11 secs.). The race was flown over two laps of the short course and the prizes were: First, Cup and £25; second, £10.

Open Handicap Race (Final).—The heats of this race were flown off on the Saturday morning. It was open to any machine and all pilots, and was flown for the S. E. Rodman Cup and Stakes (£75) over the long course. The prizes were: First, £40; second, £25; third, £10. The winner was Capt. Sparks on S.E. 5a "TO" (handicap, 3 mins. 39 secs.). Flt.-Lieut. Le Poer Trench was second on the H.A.C.I. (handicap 9 mins. 49 secs.). Lady Bailey was third on Moth "PU" (handicap 5 mins. 7 secs.). The Liverpool organisation presented the stakes.

This concluded the meeting.

◈ ◈ ◈ ◈

New Atlantic Proposals

ERNEST UDET, the well-known German airman, proposes to attempt the Atlantic flight in a new large Rohrbach seaplane, his route being Copenhagen, Cuxhaven, Portugal, Azores, Bermuda and New York. He hopes to start in a few days. Two American women pilots are expecting to make separate flights across, too, despite a warning that the season is now against them. One is Miss Elder, who will have a Capt. Haldeman as pilot, and the other is Miss Frances Grayson.

Canadian Aircraft Market

A CORRESPONDENT from Canada points out the vast opportunities offered by that Dominion to English aircraft manufacturers if they assert themselves now against the American invasion. Its geographical advantages speak for themselves, whilst the interest of its people is very keen. The American is getting a firm footing, however, and there is a danger of the Dominion becoming Americanised where aircraft is concerned, as it is in cars. There are a few small struggling firms run by ex-war pilots and mechanics, but they cannot resist the Americans.

Air-Commodore Samson Retires

ACCORDING to the *Gazette*, Air Commodore Charles Rumney Samson has been placed on the half-pay list, Scale A. It is hardly necessary to recall that he was one of our earliest pilots, and has many daring exploits to his credit in his long and distinguished career.

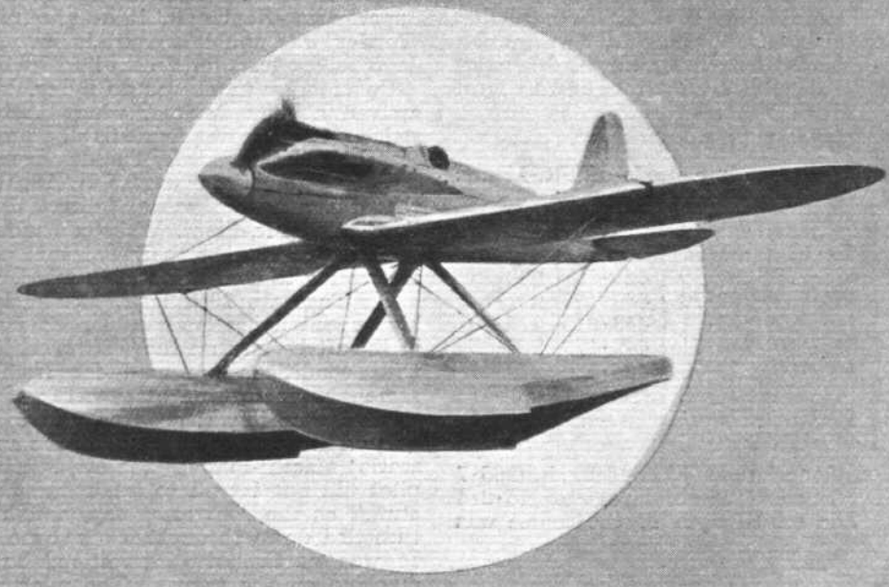
The Royal Air Force Memorial Fund

THE usual meeting of the Grants Sub-Committee of the fund was held at Iddesleigh House, on September 22. Mr. W. S. Field was in the chair. The committee considered in all 15 cases and made grants to the amount of £207 1s. The next meeting was fixed for October 6 at 2.30 p.m.

The Boulton & Paul "Sidestrand"

IN our short description of the Boulton & Paul "Sidestrand," published in FLIGHT of September 15, 1927, the power loading was given as 8·85 lb./h.p. (on the assumption of a total of 1,000 h.p.). This should have been 9·67 lb./h.p. for normal power.

THE SCHNEIDER



TROPHY RACE

VENICE 1927

FLIGHT

SEPTEMBER 29, 1927

THE SCHNEIDER TROPHY RACE

A Magnificent Win for Great Britain

THE Schneider Trophy Race for seaplanes, originally scheduled to take place at Venice on Sunday, September 25, had to be postponed until Monday, September 26, owing to unfavourable weather conditions. By Monday midday the conditions had improved, and the race was held, resulting in a win for Great Britain, at the impressive average speed of 453·282 km./h. (281·54 m.p.h.). The winning machine, the Supermarine S.5 geared with Napier engine, was piloted by Flight-Lieut. Webster. Second place was secured by Flight-Lieut. Worsley on another Supermarine S.5, similar to the winner but fitted with a direct-drive Napier engine. His average speed was 439·472 km./h. (272·96 m.p.h.). Out of the six starters these were the only machines to complete the course, the others having been compelled to abandon the race for various reasons. Thus the race proved a most meritorious one for the Supermarine Aviation Works, whose machines both completed the race.

In the following table are set out the lap times for the various machines as far as they are available at the present time. Apart from the high speeds attained, a remarkable feature of the British pilots' flying is the regularity with which they lapped the course. A difference in speed of a few miles per hour in various laps is insignificant in a race and a course of this nature.

The Official Times

Below will be found the average lap-speeds of Flt.-Lieuts. Kinkead, Webster and Worsley :—

Lap	Flt.-Lt. Webster.		Flt.-Lt. Worsley.		Flt.-Lt. Kinkead.	
	k.p.h.	m.p.h.	k.p.h.	m.p.h.	k.p.h.	m.p.h.
1	451·614	280·5	433·728	269·39	429·137	266·54
2	452·874	280·79	439·091	272·73	446·197	277·14
3	450·552	279·86	444·207	275·91	443·613	275·80
4	457·408	284·11	438·150	272·51	442·179	274·65
5	455·822	283·12	440·703	273·73	435·459	270·47
6	452·921	281·32	441·914	274·48	—	—
7	452·373	280·98	443·504	275·47	—	—
1–7	453·282	281·54	439·472	272·96	—	—

Bernardi completed only one lap, at 428·542 k.p.h. (265·7 m.p.h.). Guazzetti's average for the six laps was 415·244 k.p.h. (257·5 m.p.h.). The total length of the course was 350 kms. (217 miles).

On the following pages will be found accounts of the navigability tests and the race itself in their chronological order.

Postponed! Venice, 25.9.27.

VENICE was awakened this morning by the flapping of unfastened shutters in half a gale of wind, and it became apparent at once that it would be impossible to hold the race under such conditions. A pre-breakfast inspection disclosed a sea of galloping "white horses," and considerably more than a pocketful of wind coming out of the horizon. A forced landing under such conditions would only mean one thing, so that the official announcement at noon was of course by then a foregone conclusion.

As has already been indicated, the work of preparation has been considerably hampered by most unkind weather. There were only two days upon which serious practice over the course was possible, and during one of these the Gloster-Napier IV, to be piloted by Flight-Lieut. Kinkead, was unable to take the air owing to repairs.

Sunday last was fine and a good day's work was put in—both the Supermarine-Napier (N.220, Webster up) and the Gloster-Napier IV (Kinkead up) were in the air. The second Supermarine-Napier (N.219) was not ready—in fact Flt.-Lieut. Worsley was unable to put in any actual flying until the navigability tests on Friday!

On Monday there was no flying, but the Italian Macchis arrived at San Andrea, where their assembly under the strictest secrecy was immediately proceeded with, the first Macchi taking the air by Tuesday evening.

Whilst touching upon S.5 N.219, it is of interest to state that this machine has a "direct drive" in opposition to S.5 N.220, Flt.-Lieut. Webster's mount, which is a geared job. In comparing their eventual performances it will be interesting to bear this fact in mind.

On Tuesday, 20th inst., extremely bad visibility made high speed flying inadvisable. It was not until five o'clock in the afternoon that the "Sirrocco" began to lift, and even then conditions appeared far from ideal. Nevertheless, although our own machines were not seen, the Italian camp decided that it was good enough to "flip," and a deal of excited interest was aroused by the appearance of one of the scarlet Macchi-Fiats in the air, but it was obvious that the pilot did not intend to let us see the machine "strut her stuff," as the Americans say, and he appeared to be well throttled down throughout the whole of the "exhibition." It was particularly interesting, however, to watch this machine on the turns. The pilot repeatedly employed a climbing turn, finishing some ten degrees from the vertical, "on her back," and as during subsequent practice it has been observed that each of the Italians employ this method, one

Previous Schneider Speeds

The following list of the winners of previous Schneider Trophy contests forms an interesting comparison, and also shows the steady development of the high-speed seaplane :—

1913, Monaco; course, 150 miles. M. Prevost (France). Deperdussin mono, 160 h.p. Gnome. 45·75 m.p.h.

1914, Monaco; course, 150 miles. C. H. Pixton (Great Britain). Sopwith bi., 100 h.p. Gnome. 86·8 m.p.h.

1919, Bournemouth. Contest annulled.

1920, Venice; course, 202 miles. Luigi Bologna (Italy). Savoia S.19 boat, 550 h.p. Ansaldo. 107 m.p.h.

1921, Venice; course 200 miles. G. le Briganti (Italy). Macchi VII boat, 200 h.p. Fraschini. 111 m.p.h.

1922, Naples; course, 200 miles. H. C. Biard (Great Britain). Supermarine boat, 450 h.p. Napier "Lion." 145·7 m.p.h.

1923, Cowes; course, 186 miles. Lt. D. Rittenhouse (U.S.A.) Curtiss Navy C.R.3 bi., 465 h.p. Curtiss D-12. 177·38 m.p.h.

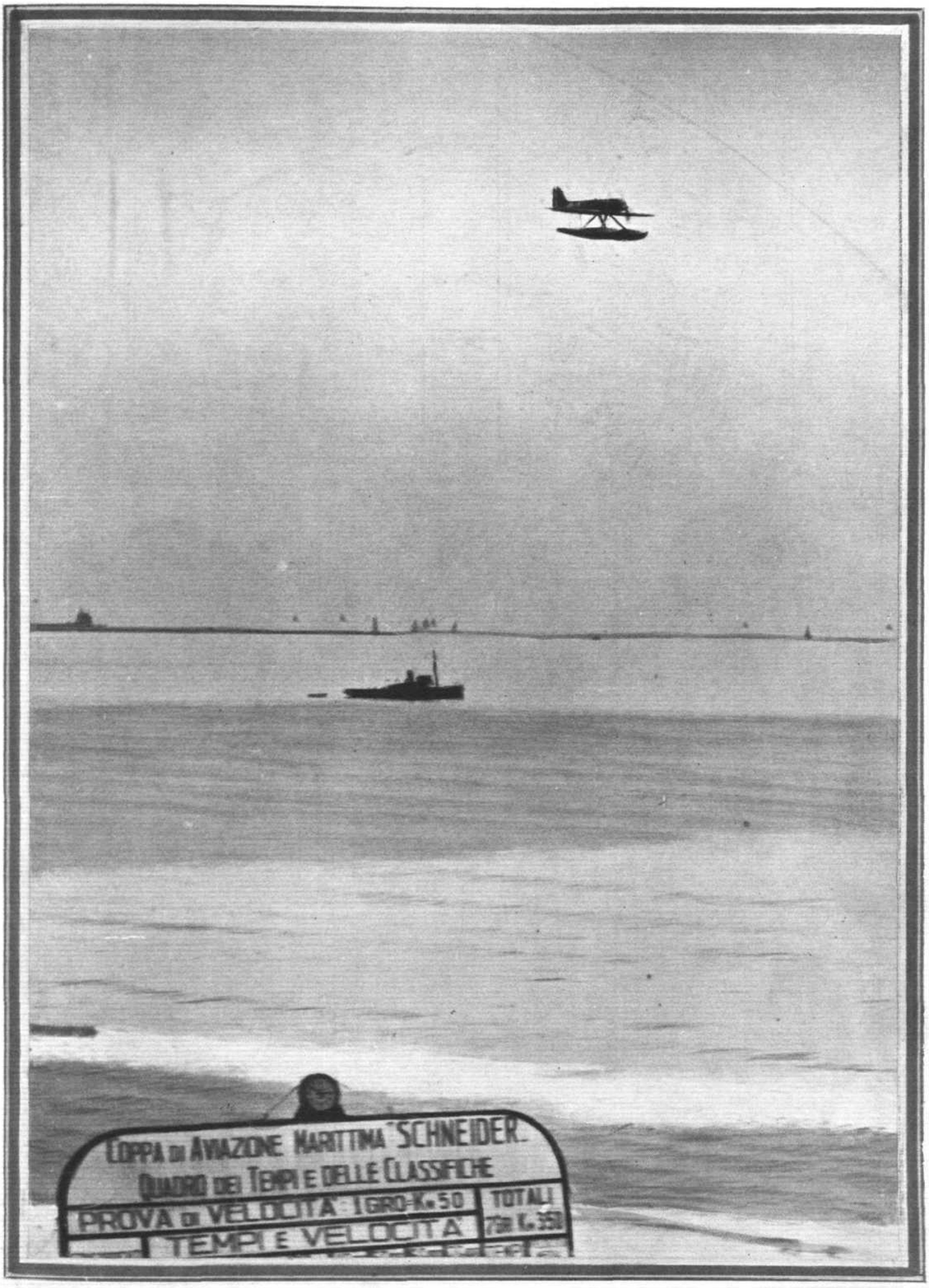
1924. No contest.

1925, Baltimore; course, 188·86 miles. Lt. J. Doolittle (U.S.A.). Curtiss Army R.3.C.2 bi., 510 h.p. Curtiss V-1400. 232·57 m.p.h.

1926, Newport Roads; course, 188·86 miles. Maj. de Bernardi (Italy). Macchi M.39 mono., 800 h.p. Fiat. 246·496 m.p.h.

How the speeds have grown: Our sketch map (annexed) shows the distances covered in one hour by the winners of the first Schneider Trophy Race and the winner of this year's contest. Any point within the larger circle could be reached in an hour by the Supermarine S.5.

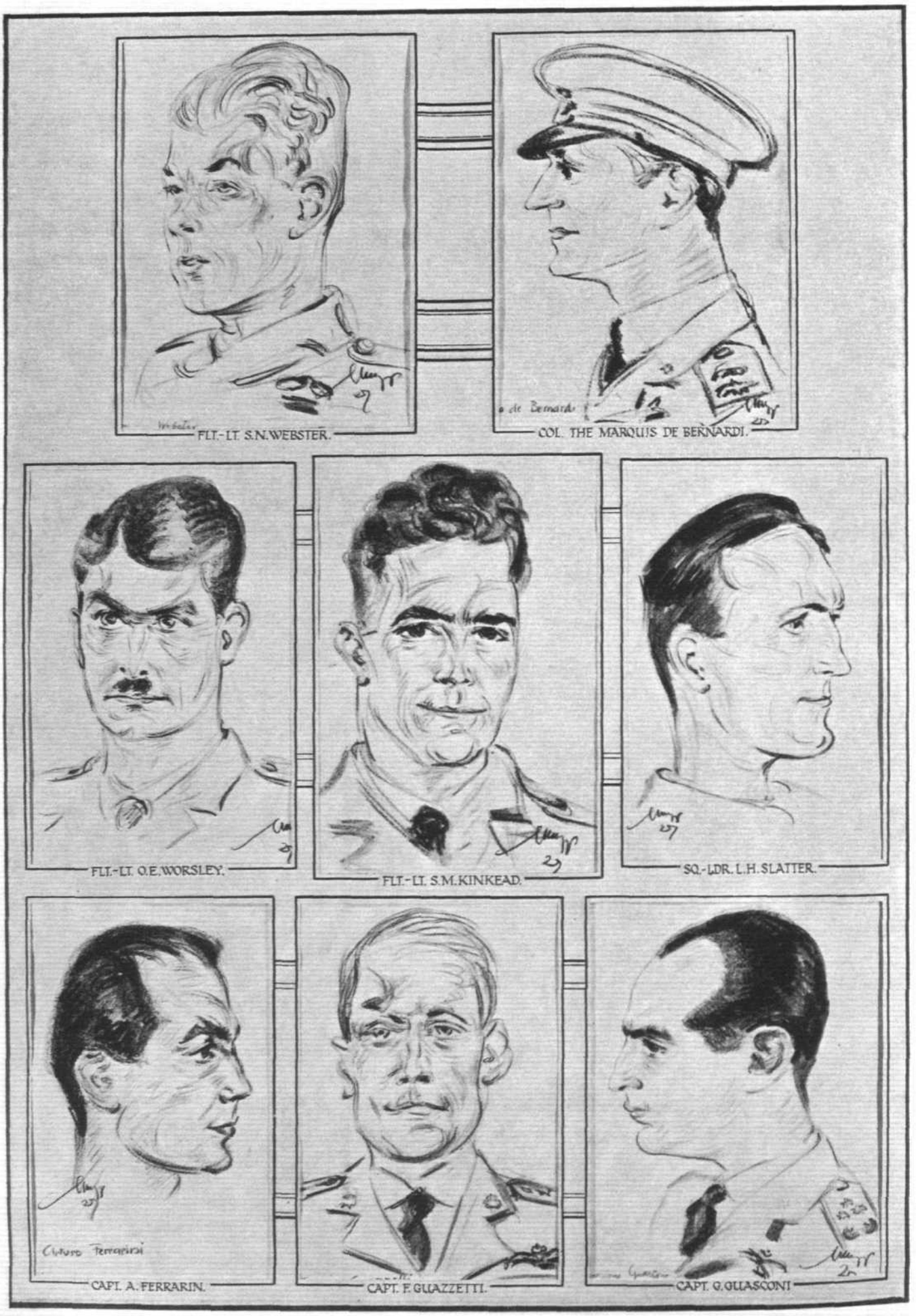




["FLIGHT" *Photographs*

VICTORY :—Flight-Lieut. S. N. Webster, A.F.C., crossing the line, and thus winning back the Schneider Trophy for Great Britain. His average speed for the course was 281·54 m.p.h.

THE SCHNEIDER PILOTS

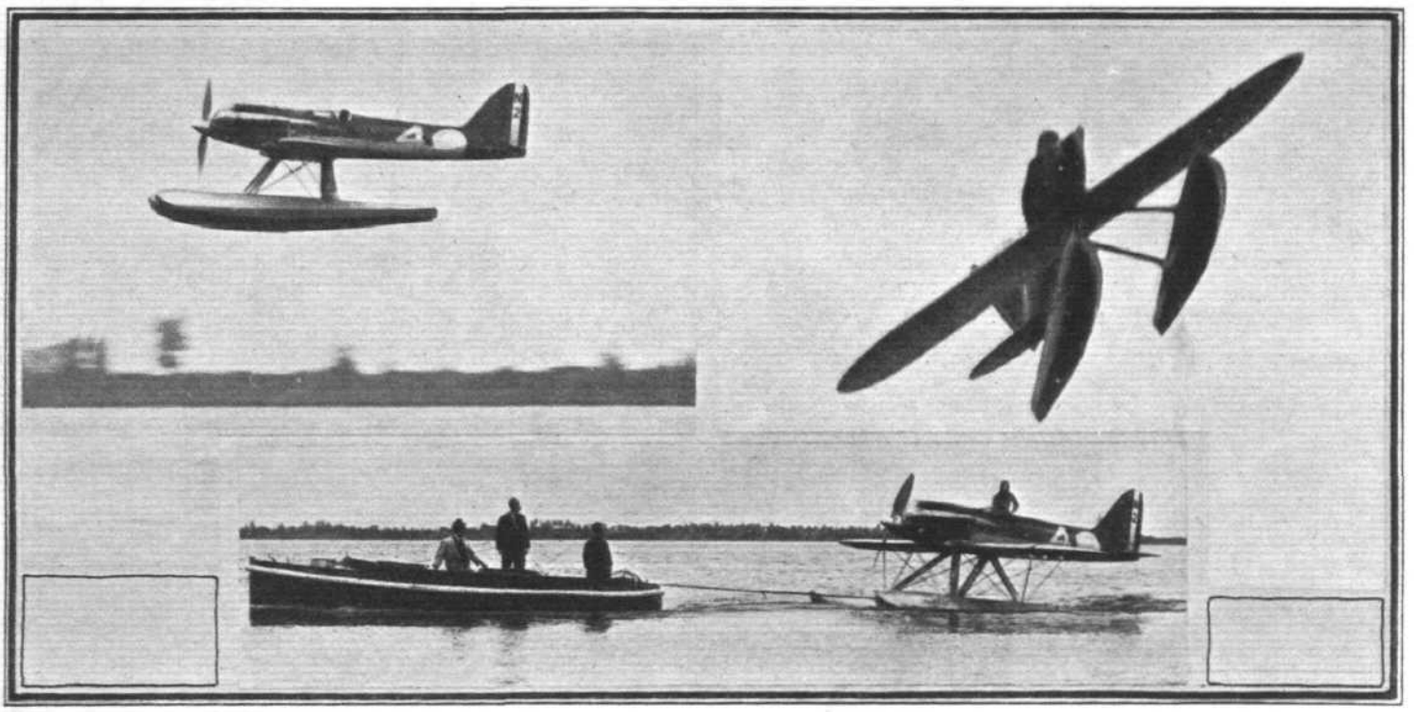


From original sketches by Stumpp.



["FLIGHT" *Photograph*

GREAT BRITAIN GOING STRONG IN THE 1927 SCHNEIDER CONTEST :—Flight-Lieut. Worsley on the Supermarine-Napier (direct drive) S.5 No. 6 being overtaken by Flight-Lieut. Kinkead on the Gloster-Napier No. IVb.



["FLIGHT" *Photographs*

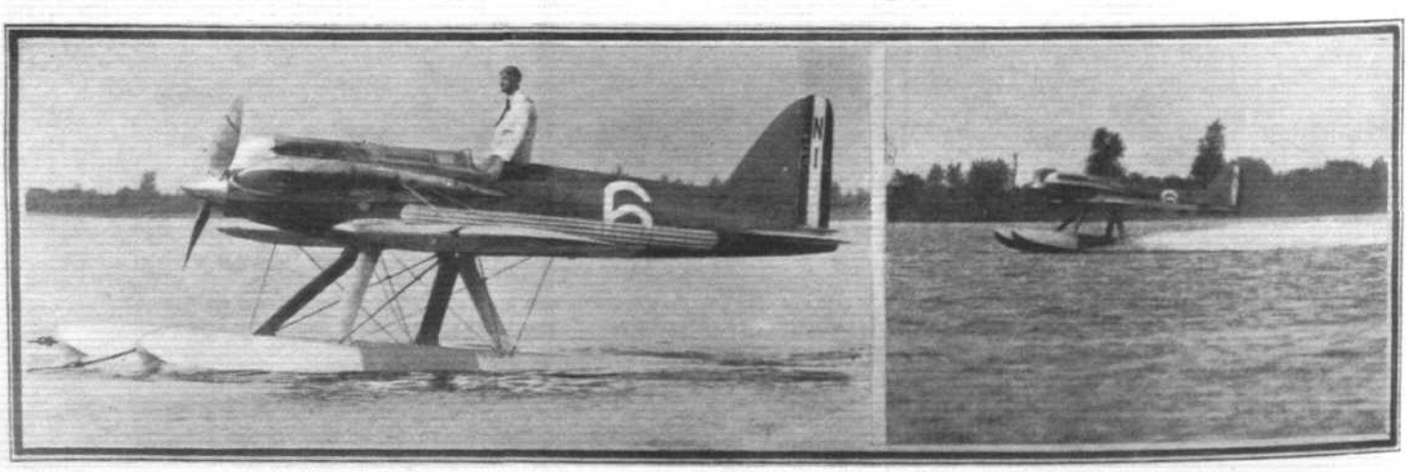
THE SCHNEIDER TROPHY RACE : Flight-Lieut. Webster flying straight, not quite so straight, and towing in the Supermarine S.5, on which ultimately he won the race. These photographs were taken during the navigability, etc., tests.

is led to presume that this is the form of turn they will use during the actual race. In contrast, the English pilots have so far invariably employed a clean vertical bank turn, so it would appear that the race will provide some useful data on a very much debated question. The Macchi-Fiat was in the air for half an hour, finally making a perfect landing on the waters of Canale Tre Porte, near the Italian hangars.

On Wednesday, 21st inst., a good flying day was welcome, and both the Gloster-Napier IV, and the Supermarine-Napier S.5 N.220, were able to put in some practice. Misfortune, however, was awaiting the Gloster contingent, and a somewhat serious incident occurred as Flight-Lieut. Kinkead was about to make a landing. It appears the spinner of the Gloster-Napier came adrift and in flying off struck the "prop," and it was subsequently found that the prop shaft had been damaged, and the splining badly stripped. Still more unfortunate was the discovery that Kinkead had received a dose of " gas " sufficiently bad to confine him to his room during the next day. At first it seemed that the chances of the Gloster-Napier IV starting in the race was distinctly remote, but again the Gloster-Napier crew metaphorically took their coats off, and put their backs into it, with the happy result that the machine was able to take her place on the starting line for Friday's navigability tests. On Thursday, 22nd inst., conditions were again unfavourable, but the Macchi-Fiats put in short practice spins, again apparently throttled down, for the greater part at least. Upon landing, one of these machines caught fire under the cowling, but it was fortunate that extremely prompt action succeeded in extinguishing the flames before any damage was done.

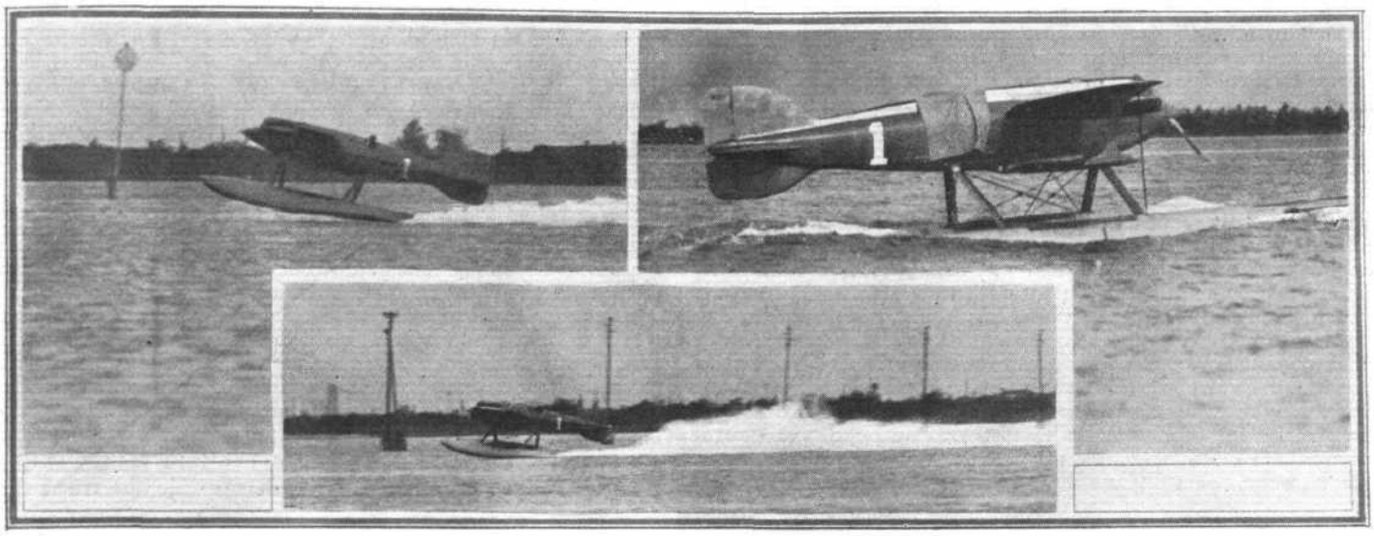
Friday, the 23rd inst., witnessed the preliminary navigability tests, and one turns to these with a viewpoint that is to say the least of it, somewhat " mixed." It is difficult indeed to express a definite opinion with regard to the actual carrying out of these tests, and one can only give an accurate account of what occurred, and leave the interpretation of these facts to whoever cares to read them.

Before, however, proceeding to the actual report, it would be perhaps as well, in view of subsequent happenings, to review briefly the rules and regulations which were laid down as to exactly how these tests were to be decided. According to these rulings, two " marks " were placed in the Canale Tre Porti at a distance apart of (approximately) half a marine mile. It was required of the machines to perform the following evolutions. First they must make a straightforward " take off " (starting from the first mark) *before* reaching the second mark. They were then to make a short circuit in the air, returning and alighting before again reaching the first mark. Then they were to " taxi " the distance between the two marks at a speed of not less than 12 kilometres per hour, after which they were to take up the official mooring for the " floating " test of six hours' duration. It will be as



["FLIGHT" *Photographs*

THE SCHNEIDER TROPHY RACE : Lieut. Worsley, in his Supermarine S.5, being towed out for the eliminating trials and, on the right, during the taxying test.



["FLIGHT" *Photographs*

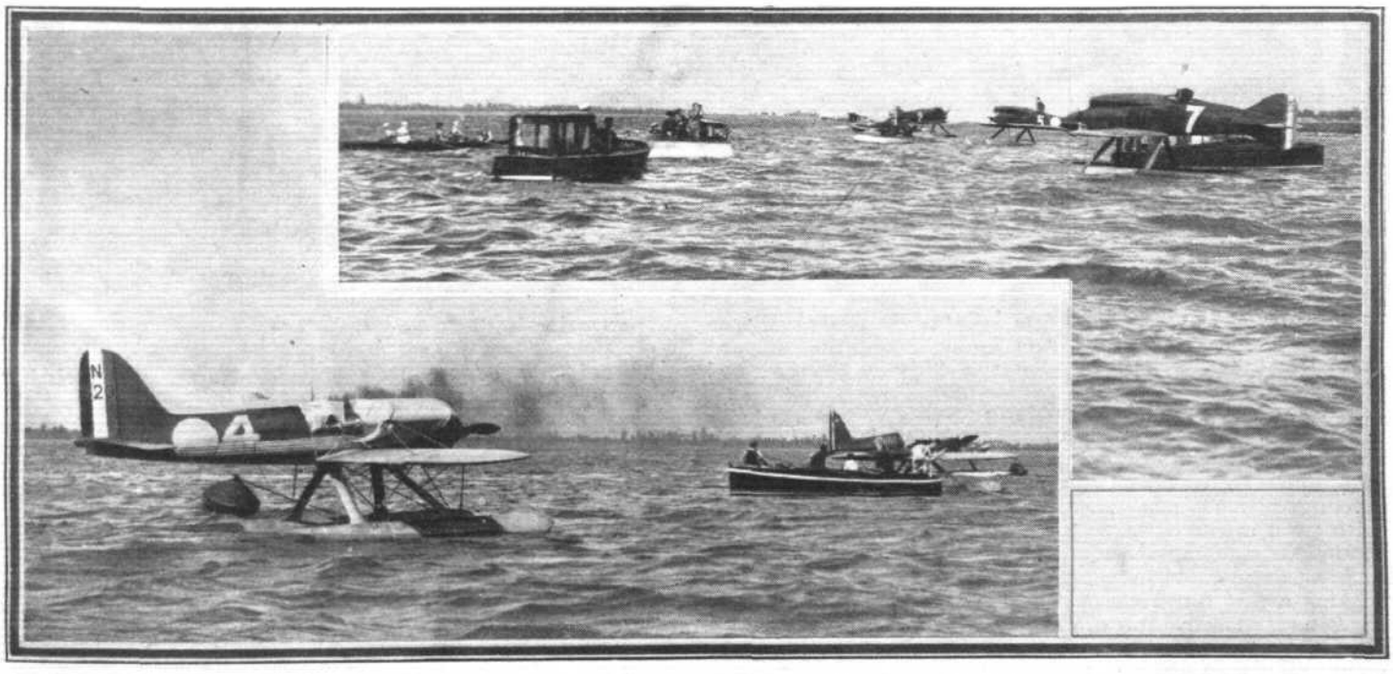
THE SCHNEIDER TROPHY RACE : Three views of Lieut. Kinkead's Gloster-Napier, taking off, towing and taxying.

well to bear these points in mind when reading the following description of the actualities.

The tests were designated to commence at 9 a.m., and shortly before this time the first British machine, the Gloster-Napier IV, was observed proceeding toward the starting line, towed by a motor boat, aboard which was the pilot, Flight-Lieut. Kinkead. This machine was followed almost immediately by the two Supermarine-Napier S.5s, towed in the same fashion on their floats. The weather, although not being all that could be desired, was nevertheless clear, and a freshening wind was blowing down and slightly across the course. It should be mentioned that the lay-out of the course was such that it was necessary for the competing machines, both British and Italian, to traverse the length of the fairway from the second to the first mark, before taking their position on the starting line. The course was situated in a length of the "canal" some quarter-mile across, and being reasonably exposed to the wind, the water was inclined to be a little choppy in places.

Some time after the appearance of the British craft, it was learned that the Italians had telephoned to inform the officials that they would be at least an hour late in taking up their positions, and the result was a rather trying wait until 10.20 a.m. before the Macchi-Fiats made an appearance. It was then seen that the Italian machines were being towed up by steam tugs, accompanied by a deal of black smoke, and that the machines themselves were mounted upon specially constructed wooden pontoons, built with their "decks" in the form of an inclined plane to facilitate the launching of the 'planes on to the water. Macchi-Fiat No. 5 was the leader of this procession, closely followed by No. 2, while No. 7 appeared some considerable distance in the rear.

In the meantime it had been decided that the British machines would proceed with their tests, and Flight-Lieut. Kinkead, on the Gloster-Napier IV biplane, started his engine and proceeded towards the first mark. This was at 10.32. It seemed unfortunate that just at this time the tugs and pontoons of the Italians were steaming right in the middle of the fairway and approaching within hailing distance of the second mark. For a few moments it looked as if Flight-Lieut. Kinkead would be badly baulked, but he proceeded past the first mark and commenced "taxiing" down the course at a leisurely rate. For some reason not divulged, he did not "open out" for a take-off until some 200 metres or so from the second mark, and it appeared to the writer (who had an excellent position almost in line with the second mark) that he actually left the water not less than 5 m. over the line. He rose over the approaching tugs and



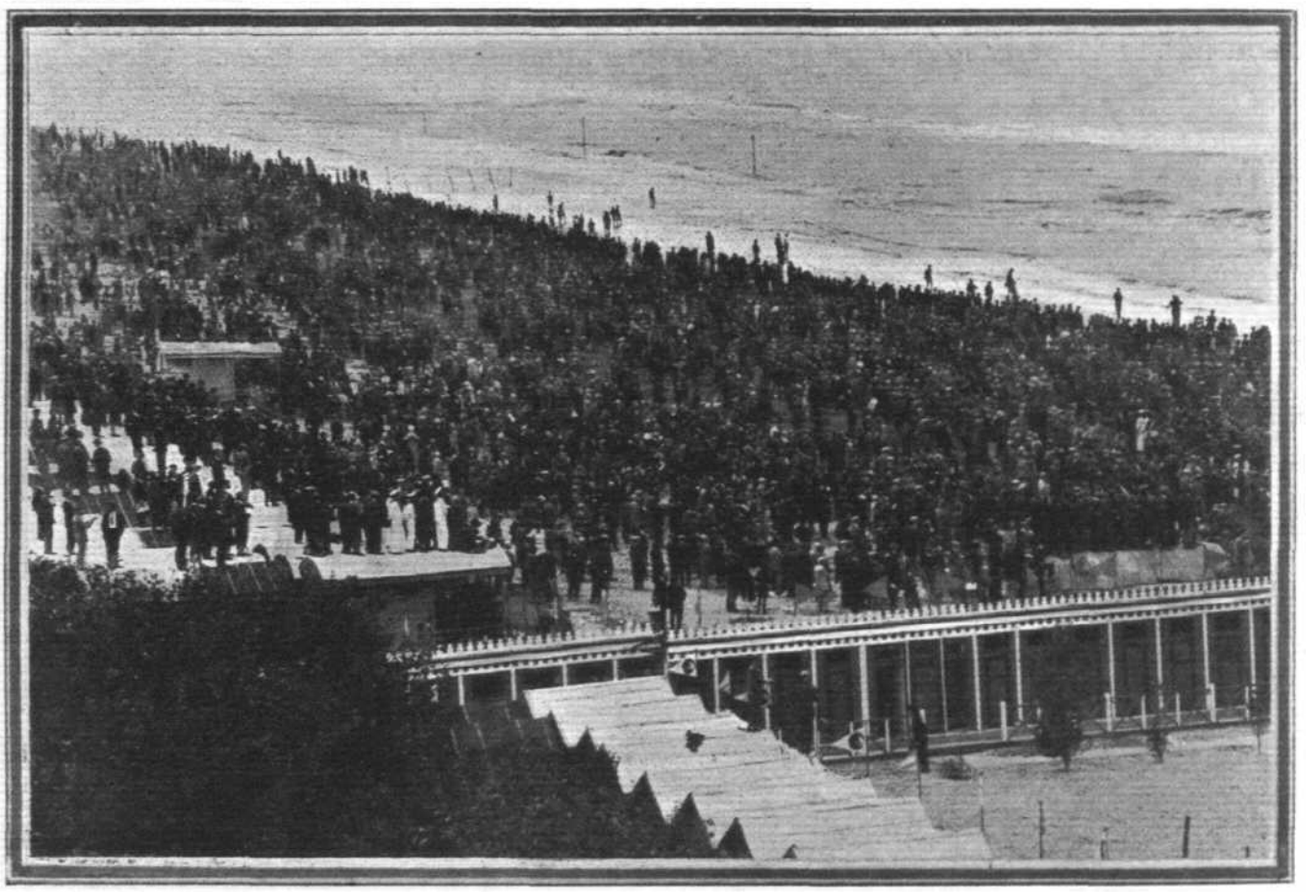
["FLIGHT" *Photographs*

THE SCHNEIDER TROPHY RACE : Two views of the machines during the 6-hours' mooring test. The machine in the foreground in the lower picture is the Supermarine S.5 on which, later, Webster won the race.

circled in a wide, fast sweep back toward the starting line again and executed a perfect landing, proceeding straight away with the second ("taxying") test. This he completed at a fairly high speed, and appeared to have the machine well under control throughout the run, and it was noticed that meantime the Italians were apparently endeavouring to get their machines over toward the right bank of the canal in order to leave the fairway clear. It was expected, of course, that a protest would be lodged on account of the presence of the Italian lighters in the fairway, but apparently nothing accrued, and the Gloster-Napier IV, after taking off when well past the second mark, and alighting near her "tow," was taken immediately toward the mooring line for the six hours' "floating" test. Flight-Lieut. Kinkead, standing up in the cockpit of the machine, received a very hearty ovation from the small crowd assembled on a jetty at the second mark, and he acknowledged the cheers with a cordial wave of the hand. In passing, it is interesting to note that among the assemblage on this jetty one observed Sir Sefton Brancker, the Director of Civil Aviation, Mr. Robert Blackburn, Mr. Oswald Short, Mrs. Carberry, and Capt. H. S. Broad, who had piloted Mrs. Carberry from London, alighting only at Lyons and Turin, and crossing the Alps in the process! This, however, is by the way.

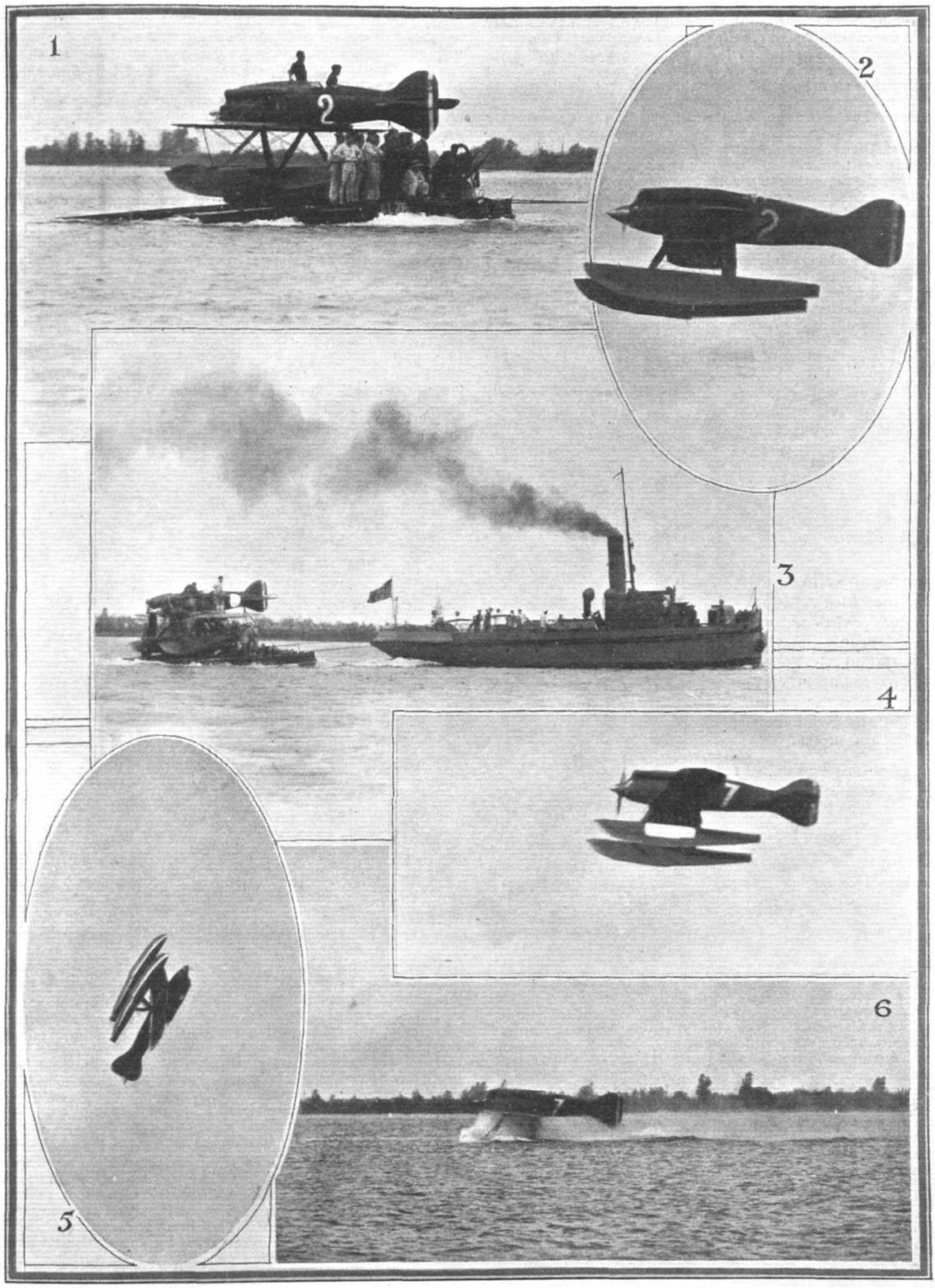
At 10.55 the Supermarine-Napier S.5 N.220, piloted by Flt.-Lieut. Webster, made for the starting line, and on the first run practically repeated the performance of Flt.-Lieut. Kinkead. He traversed the greater part of the distance at a comparatively slow pace, and "opened up" for flight with what appeared to be barely sufficient distance to take off before reaching the second line. He left the water, as nearly as one could judge, practically dead on the line and, making a fast turn, returned at great speed for the "taxying" test. During the run for the latter, he seemed to be travelling at considerable speed, and to everybody's astonishment, he "took-off" quite 15 metres before reaching the second mark. This, following the performance of the Gloster-Napier IV, was very baffling to the onlookers, and when later, the truth was learned, it was found that the Supermarine-Napier S.5 had apparently met a sharp puff of wind on the crest of a wave, and had been inadvertently "bumped" off. However, on returning to the officials' boat, Flt.-Lieut. Webster received the O.K. to proceed to the mooring test, and it was, therefore, then assumed that his performance had been accepted as in order. Something of a sensation was caused, however, when, at 4 o'clock in the afternoon, it was officially announced that his disqualification had been decided upon, and that it would be necessary for him to go through the "taxying" test again at 9 a.m. on the following morning. This decision not unnaturally caused a great deal of discussion, and it seemed particularly bad luck on account of the fact that it would necessitate another long "tow" from the hangars to the starting-point, in order that he might "taxi" across half-a-mile of water. As far as one can gather, the general opinion in the English circles here is that he should have been informed of the possibility of this disqualification soon after he had completed the run, and not allowed to go to the mooring test under the impression that all was O.K. It was extremely difficult to realise at the time, of course, exactly what had happened, but when the Supermarine-Napier was seen to leave for the official mooring line, most people present concluded that all was well.

At 11.22, the second Supermarine-Napier S.5 took her place for the take-off test, piloted by Flt.-Lieut. Worsley, and once more the "gallery" were a little surprised to see that no attempt was made to put on flying speed upon passing the first mark. By the time Flt.-Lieut. Worsley started, the wind had freshened considerably, and the water was admittedly difficult for a satisfactory take-off, particularly with this machine, which, as has already been indicated, has a direct drive and a consequent heavy torque when revving up. Very soon after entering the course, it became apparent that Worsley was experiencing some little difficulty in keeping the plane under absolute control, and after a series of swerves in the roughening water, during which the floats seemed to be in some danger of submersion, he was obliged to cut out his engine for a spell, and came to a dead-stop about half-way through the course. By the time he had righted the machine, and had succeeded in reaching flying speed, he was some 50 metres over the second mark. He returned at once to



["FLIGHT" *Photograph*

Some of the 200,000 Schneider Trophy spectators on the famous Lido beach.



"FLIGHT" *Photographs*

THE ITALIAN SCHNEIDER MACHINES: (1) Bernardi's No. 2 Macchi being towed into position and (2) Well away ; (3) No. 5 Macchi (Guazzetti's mount) being towed ; (4) No. 7 Macchi (Ferrarini's) starts ; (5) Making an "Immelmann" turn ; and (6) Taxying

make a second take-off, and, although this time the machine was under decidedly better control, it seemed apparent that it was necessary for the pilot to pull her off with the rudder hard over, mainly on account of the terrific torque reaction. The machine appeared to leave the water with a distinct swerve, but once in the air, it behaved magnificently, and returned with a burst of speed that was truly delightful to witness.

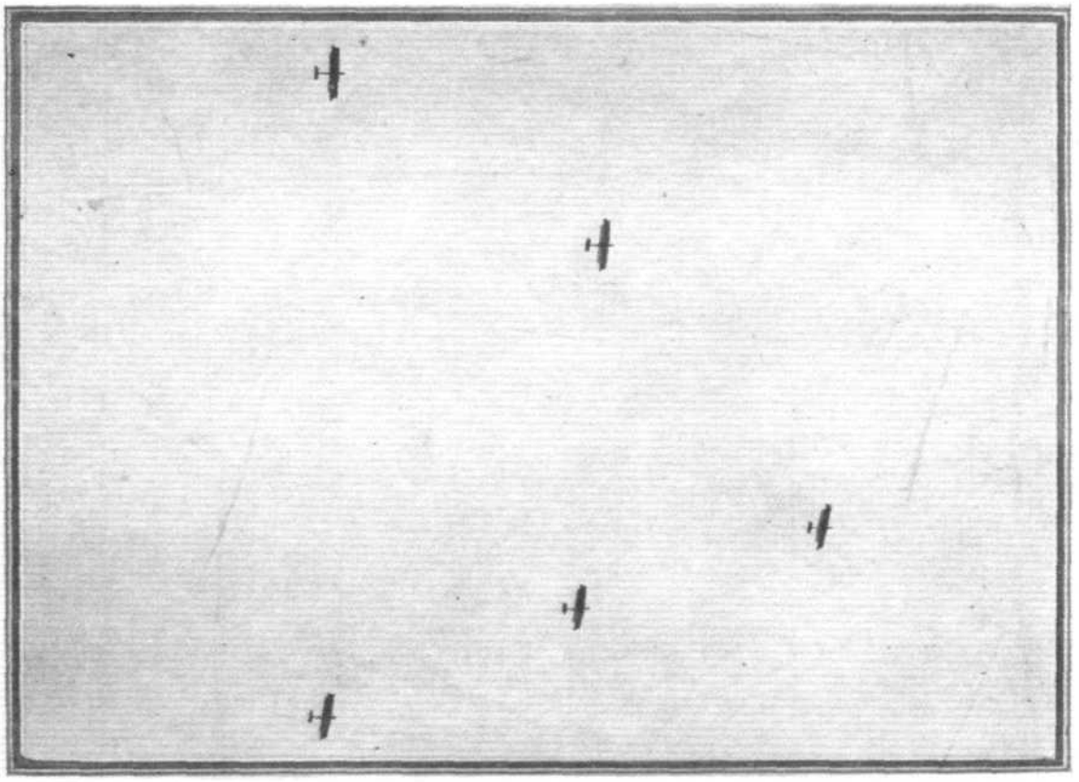
From the above facts, it will readily be seen that apparently some misunderstanding took place somewhere, or possibly the machines were actually to a degree baulked by the presence of the Italian lighters and machines in the fairway. Unfortunately, owing to Service Regulations, it is not possible at the moment to receive a definite opinion from the pilots themselves, but it certainly seems difficult to account for the fact that each of the three British pilots exhibited considerable delay in putting on flying speed during the first " take-off " test, and certainly from the onlookers' point of view, it appeared that they were endeavouring to get into the air as near to the second mark as possible. According to the rules, this latter was not a necessity, so that altogether the problem is distinctly baffling. In any case, the combination of circumstances was extremely unfortunate.

At 11.42, the Macchi No. 2 reached the first line for the " take off " test, and opened out to full speed immediately after passing the mark. The machine got off in a remarkably short run, and passed over the second line at speed and at a height of about 70 m. After again displaying the climbing turn aforementioned No. 2 returned, and went through the " taxi " test in really superb fashion, and under complete control throughout. The name of the pilot was not divulged. Upon completing this, the machine was taxied to the mooring line under her own power, and there is no question that the Macchi-Fiat type M52 possesses a very high degree of navigability on the water.

At precisely 12 o'clock noon, the Macchi-Fiat No. 5 crossed the starting line, and put up an exactly similar performance to her predecessor, taking off in the first run well before the quarter-mile mark.

Macchi-Fiat No. 7 followed suit at 12.22, and there was nothing to choose between the performance of the three Italian planes. Upon starting to " taxi " towards the scoring line, however, the engine of the last machine, No. 7, " packed up " for some reason unknown, and the pilot stood up in the cockpit and indicated his intention of obtaining a tow for the rest of the short journey down. It was then seen that the pilot was the much-talked of Commander Ferrarin, who is of course, at the moment, the idol of the Italian populace, and whose appearance was heartily acclaimed by the Italians among the spectators. By the way, it should be pointed out that the number of spectators at the navigability tests was distinctly limited, as not only were they held in an officially " closed area " of the port of San Andrea, but the transport facilities for the lucky few who were privileged to enter seemed far from adequate. The vast bulk of the " audience " consisted of sailors and officers from H.M.S. Aircraft carrier " Eagle," which was moored some short distance off shore on the other side of the narrow spit of land that forms one bank of the Canale tre Porti.

The official mooring test, of six hours' duration, was held about half a mile from the course above described, and the arrangements in connection with this interesting part of the day's programme proceeded without a hitch or an untoward incident of any kind. About 20 m. from the bank of the " Canale " six red mooring buoys were placed, at a distance apart of about 25 m. To these the machines were attached immediately after completing the first series of tests, and when finally, Macchi-Fiat No. 7 took her place in this all-important line, the sight was a very imposing one. This, of course, was the first time one had an opportunity of comparing the various competing machines side by side, and the event, following such a long period of secrecy from the Italian side, was not without a colourful sense of the dramatic. It was very interesting to note that, whereas there is a marked similarity between the British and Italian monoplane entries in general principle, there are very distinct differences between the lines of the fuselages of the respective types. The beautiful " straight line " effect of the Supermarine S.5s seemed to contrast very favourably with the curved, and cigar-like lines of the Macchi-Fiat M52s. The " racing colours " of the machines, the scarlet of the three Macchis, the blue and silver of the Supermarine-Napier S5s, and the blue and copper of Gloster-Napier IV formed a striking picture in the Italian sun that will be long remembered. Unfortunately, however, the burst of sunshine did not last long, and by the time the machines had been on their moorings for half an hour, there were distinct signs in the sky that a period of " dirty weather " was shaping itself, with plenty of squalls and rain. Within the first three hours of the mooring test, the weather broke, and a heavy rain and hailstorm beat down upon the machines. Hailstones fell almost an inch in diameter, and the wind was by then blowing with considerable force, and it says a great deal for the sound construction of all the seaplanes that a close and anxious inspection as soon as the test was completed revealed the happy fact that not the slightest damage had been done. It is not, of course, known just how the Macchi-Fiat floats fared during this exacting test. In fact, it would be extremely interesting to discover this, as it is understood that their floats are of wooden construction, and would be more susceptible to soakage, it is therefore assumed, than the floats of the British planes. There was much joy, of course, over the discovery that the Gloster-Napier IV biplane floats showed not the slightest trace of internal moisture at the end of the six hours' ordeal, and that the two Supermarine-



Aerial visitors to the Lido: A flight of twin-engine Capronis of the Italian Air Force paying an official visit to the scene of the Schneider Contest.

["FLIGHT" *Photo.*

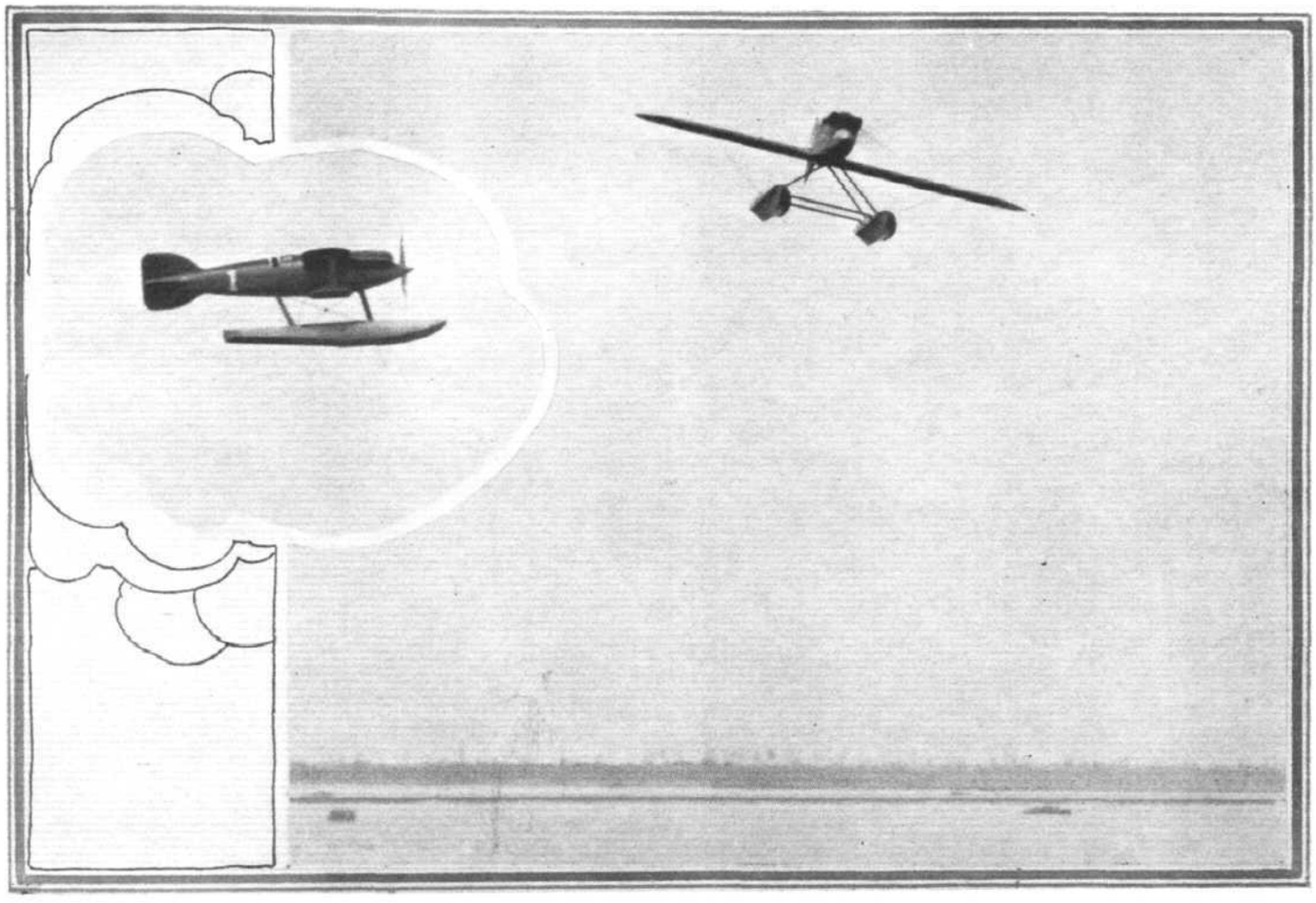
Napier S.5s showed only a very slight amount of water in each float.

As soon as the respective seaplanes finished their mooring tests, they were towed back to the hangars, and the painstaking work of inspection, and "last-minute" adjustment was commenced. On Saturday morning, the Supermarine-Napier S.5 N. 220 was taken out for Flight-Lieut. Webster again to go through the taxi test, and one is happy to report that everything this time progressed satisfactorily, and the pilot was able to obtain the official O.K. without any further difficulty.

The Race

We awoke on the Monday morning to a state of doubt. The wind had certainly subsided and the lagoon was calm enough. But the weather-wise had said that after such a storm it usually took one or two days for the Adriatic to calm down. The white horses might have disappeared, but the heavy swell might still make it impracticable for a pilot to put a racer down in a hurry without disaster. Col. O'Gorman was requested by the racing committee to have our team down at the starting point by the mole at Porto di Lido by 2 p.m. and to remain there, if necessary, until 4 p.m. "What an ordeal for the pilots!" was the thought that came to one's mind, mingled with recollections of the horrible suspense of waiting ten minutes for the start of a bumping race on the Thames. The postponement from yesterday must have been bad enough for the team, and yet they seemed to take it with great *sang froid*. A day or two before Kinkead had had a slight recurrence of malaria, from which he had once suffered, and Webster was reported to have remarked to a friend that this might be a symptom of strain. If so, he for his part was not affected at all. The friend remarked that the Italians expected to win the race (I know as a fact that they did not, but let that pass), and went on, "What do you think, Webby?" "Well," replied the destined champion, "I think that *I'm* going to win it." That was the gorgeously confident spirit of the British team. For, it may be remarked, not every expert believed that the Supermarine with geared engine would beat the Gloster with geared engine, and, until the spinner trouble began to develop, there were some, very much in the know, who were willing to lay their shirts—well, perhaps not a shirt, but at least a soft collar—that the biplane would win the cup. Opinions differed, of course; but in the main it seemed that biplane and monoplane were as nearly matched in speed as don't matter, so long as they both had geared Napiers. The ungeared monoplane was from 9 to 10 m.p.h. slower. All the same, it was well worth while to enter one ungeared engine because in it there was less chance of the oil heating up. We felt that whatever happened Worsley was practically sure to finish the course. Moreover, though we told it not in Gath, and whispered it not in the streets of Ascalon, we thought that in that case Worsley would win the trophy.

We wondered also how the Italians were feeling. It is a popular British belief that Latin nerves must suffer still more from such tension. But I find it difficult to believe that a pilot who has won a race from Rome to Tokio can have an over-developed nervous system. Ferrarin had confessed in conversation to an English friend that he had not much hope of the Macchis beating the British machines, but despair is not the same thing as what rowing men call "the needle." Guazzetti, from his war record, must be a man of—if we may put it so—"guts." He was first a naval officer and took part in several sea fights. Then, flying bombers, he was shot down over the Isonzo, and after some time in hospital, was passed fit for naval but not for flying duties. So he did some more sea fighting, and then in time managed to get back into the air. Most undoubtedly a pilot of determination! He and Ferrarin are both aged 32, and de Bernardi is 34, all mature men. Kinkead, the eldest of our team, is only 30, and Webster and Worsley are 27 and 29 respectively. None of our three had previously flown in a high-speed race, whereas de Bernardi and Ferrarin were both in last year's winning team. In fact, if what I was told is accurate, namely, that Webster has recently been in the "twin-engined flight" at Martlesham, one wonders what genius among the selectors spotted in him a probable winner of the Schneider Cup.

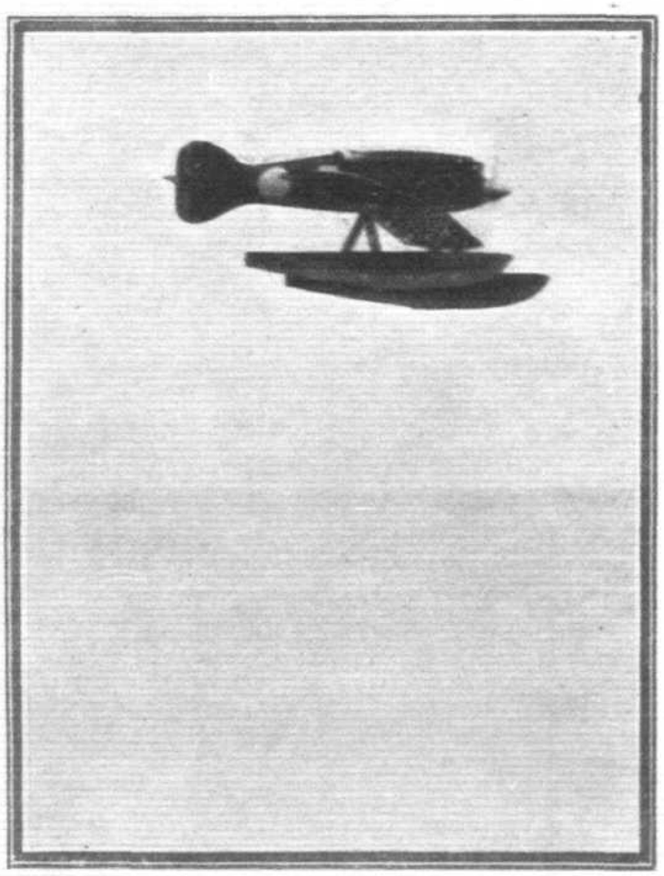


["FLIGHT" *Photographs*

THE 1927 SCHNEIDER CONTEST:—On the left, Flight-Lieut. Kinkead opens the Ball on the Gloster-Napier IVb. On the right, Flight-Lieut. Worsley well away on the direct-drive Supermarine-Napier S.5.

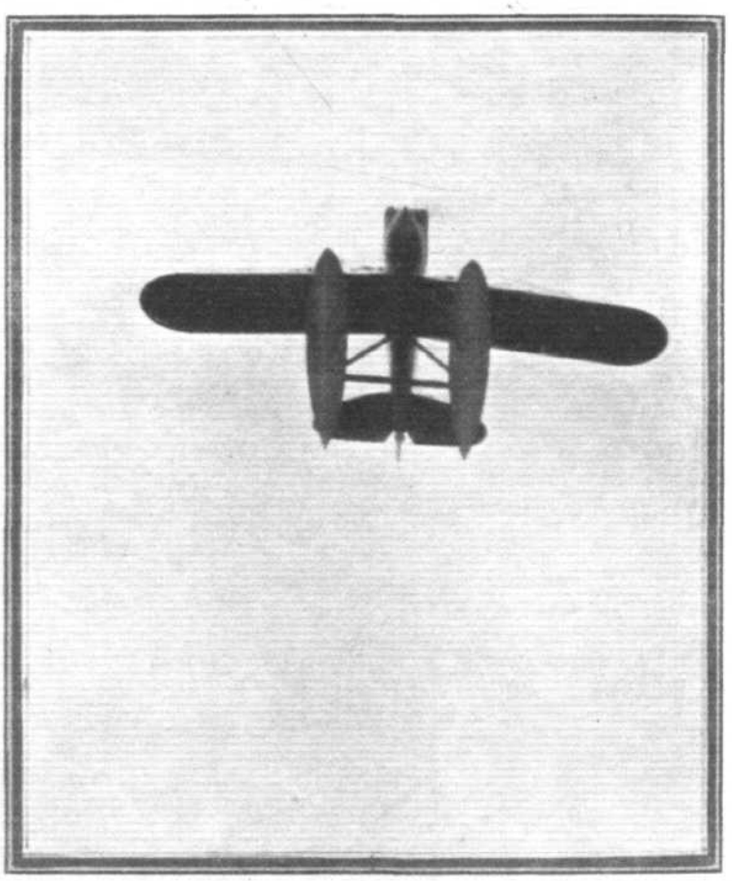
Well, as the morning wore on, the weather reports grew more hopeful, and it was decided to start the race at 2. Venice was undoubtedly a trifle less congested than on the previous day, and one felt extremely sorry for the thousands of poor people who must have spent the savings of months past in a hectic rush to Venice for the Sunday, but had to return to work without witnessing the great race. The "air-mindedness" of the Italians is a great and most admirable sentiment. The worship of the Marchese di Pinedo makes it a much more difficult matter for that great pilot to walk across the Piazza to buy a packet of cigarettes than to fly to Australia or America. Nevertheless the miles of Lido beaches were amply crowded. The Excelsior Hotel on the Lido was barricaded against all but residents, with Carabinieri in cocked hats and armed with swords stationed at every door and window. On the Sunday I had carried a window by escalade, but it was not possible to repeat the feat on Monday. From the balcony of the tower the Crown Prince of Italy watched the race, and every point the due correction had been made, and by now there is certainly not a man, woman, or child in Italy who is not quite familiar with the outlandish name of "Webster." The promptitude with which the time for each lap was entered on the board was quite admirable. It was even better than the recent scoring board at Nottingham.

The arrangements for starting were that each machine should receive a signal five minutes before it might leave the water. At the second signal it might take off from the neighbourhood of the Porto di Lido, and then it was allowed 10 minutes during which the pilot might cross the line in front of the Excelsior Hotel at his own discretion. His time was taken from the moment of crossing the line, unless, of course, he exceeded his 10 minutes, which no one did. The starter was allowed some discretion in varying the time for the signals. The object of all this was to avoid crowding the course at any point with the consequent danger of collisions. The result was excellent. So far as I could see, there were only three cases of machines passing each other during



["FLIGHT" *Photograph*

Captain Feder Guazzetti going all out on No. 5 Macchi. He completed six out of the seven laps.



["FLIGHT" *Photograph*

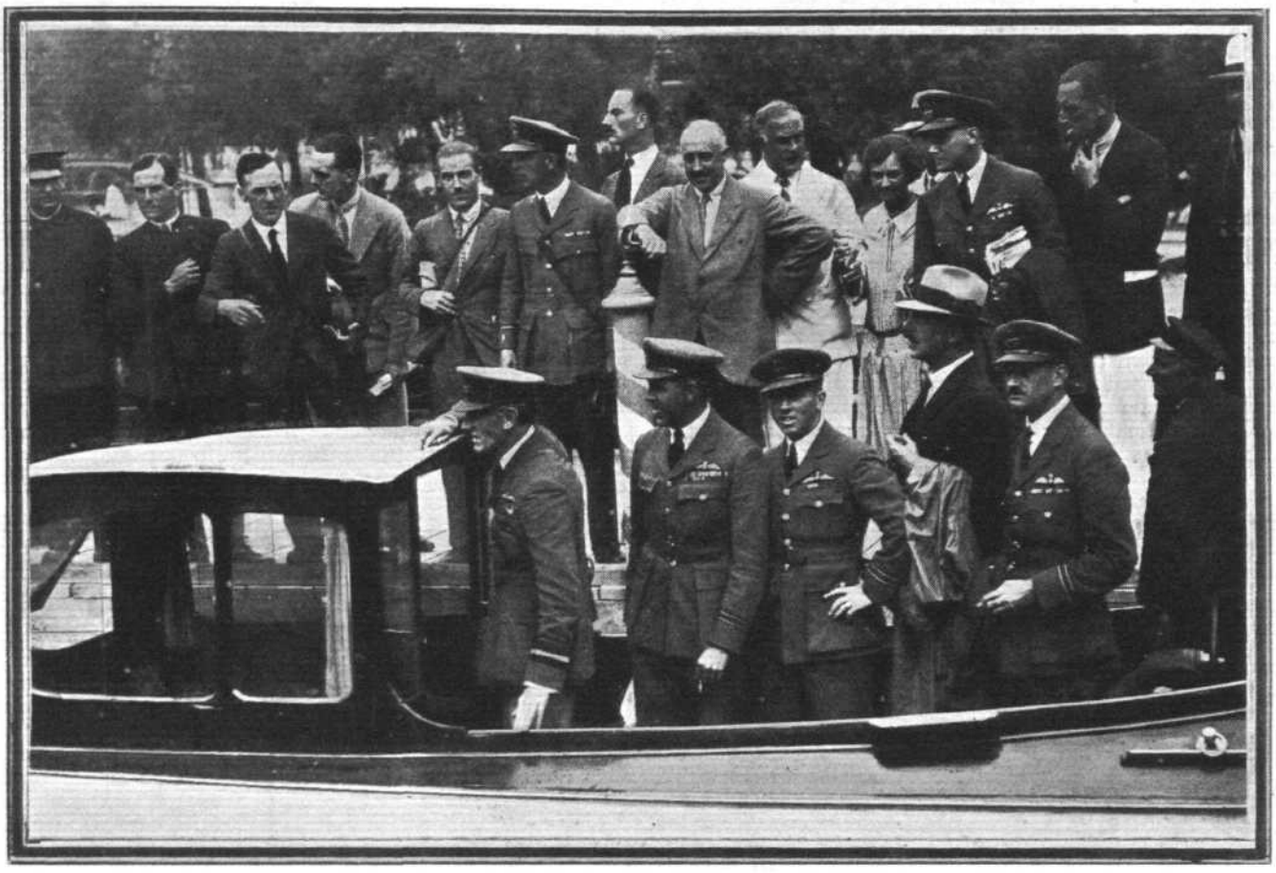
Major Mario de Bernardi, last year's winner, who only completed one lap, flew higher on No. 5 Macchi than any of the other competitors.

was crowded by privileged spectators. Commander Perrin and Mr. Reynolds, of course, had a special coign of vantage and I suppose that they controlled the mysterious British signal flags upon the roof. At intervals the "Eagle" flashed signals across, and it was understood that a secret and carefully-prepared code enabled the British pilots to learn how the fortunes of the race were going.

Very large scoring boards had been erected at intervals along the Lido. A couple of days before the race I watched the sign painters marking up the names of the pilots on one of them. No. 1 was Kinkead, No. 2 was de Bernardi, No. 3 had been assigned to the American entrant who had not materialized. Then I came to No. 4, and rubbed my eyes when I found the name written in letters a foot high was "VEGSTER." Was this some new Italian champion of whom I had not heard? Then suddenly the explanation flashed upon me. My boat back to Venice was just due to start, or I should certainly have waited to see what the sign painter would have made of "Worsley." But by Monday the race, and in only one case was an Italian machine concerned.

At 2.29 a gun made us all jump, and sent an electric thrill through the hundreds of thousands on the Lido. One of the excellent scoring boards shut out from view of the press stand the exact point where the machines took off. Moreover, the day was hazy and the sky overcast with clouds. A slight shower actually started before the race was finished, and no sooner was it all well over than the heavens opened and dropped cataracts.

Agonizing seconds passed, and then in the haze above the scoring board appeared a triangle of points. A fraction of a second more and two pairs of wings, no more conspicuous than those of a dragon fly, became faintly visible. "Kinkead" yelled all the British, but the shout was drowned by the 'cello note of the Napier reverberating through the air. There was a flash of blue and bronze about 20 ft. above the water, and ere we could fully realise that this greatest race of the world had begun, the Gloster had well nigh disappeared in the haze over



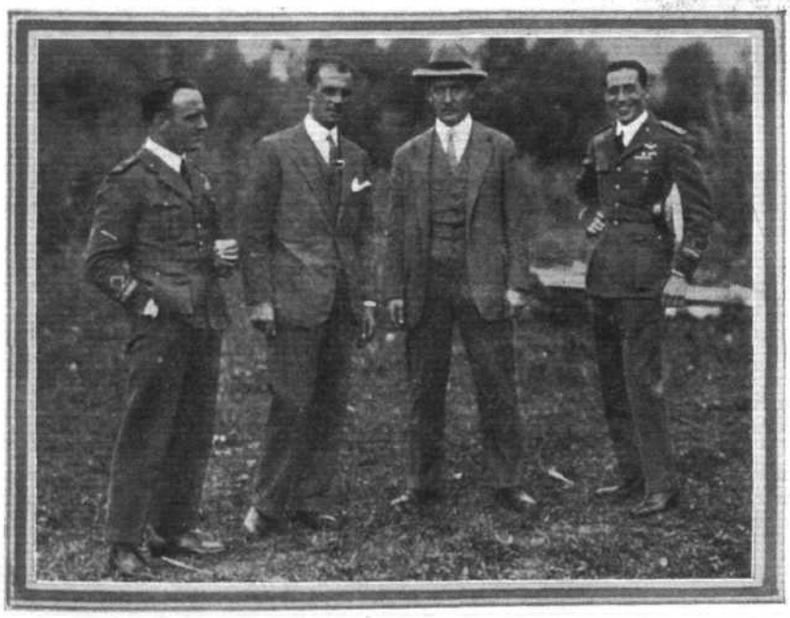
["FLIGHT" *Photograph*

GREAT BRITAIN PREPARES FOR THE FRAY:—In the motor boat will be seen Air Vice-Marshal F. R. Scarlett, Flight.-Lieut. Kinkead, Flight-Lieut. Webster, Lieut.-Col. Mervyn O'Gorman, and Flight-Lieut. Worsley. Those on the Quay include Major J. S. Buchanan, Flying Officer Moon, Mr. Plevins, Mr. Vane, Commander Perrin, Flight-Lieut. Schofield, and Mr. Wallace Barr.

Malamocco. It was the first time that most of the spectators had seen real speed, and it was bewildering. Yet the Napier had not warmed up, and Kinkead's first lap was his slowest, in fact the slowest but one of all the British laps.

Before five minutes had gone an Italian roar of "Bernardi" marked the appearance of a red Macchi over the scoring board. Bernardi flew much higher, a good 200 ft. up, and crossed the line inland over the terrace of the Excelsior. The note of the Fiat is much deeper than that of the Napier, and Bernardi's course was marked by a trail of oily smoke. Webster was up promptly and followed behind him, also smoking. The British all kept out to sea, and all flew lower than the Italians. Webster, however, did not bore so low as Kinkead had done.

I followed those two through my binoculars up to the obtuse turn at Malamocco, which they rounded with the gentlest of banks, but Bernardi, having started farther to the right, had to come across more than Webster had to do, and so lost some



SOME ITALIAN OFFICIALS: From left to right: Major de Bernardi, the designer of the Fiat engine, Major Del Prete, and Commander Ferrarin.



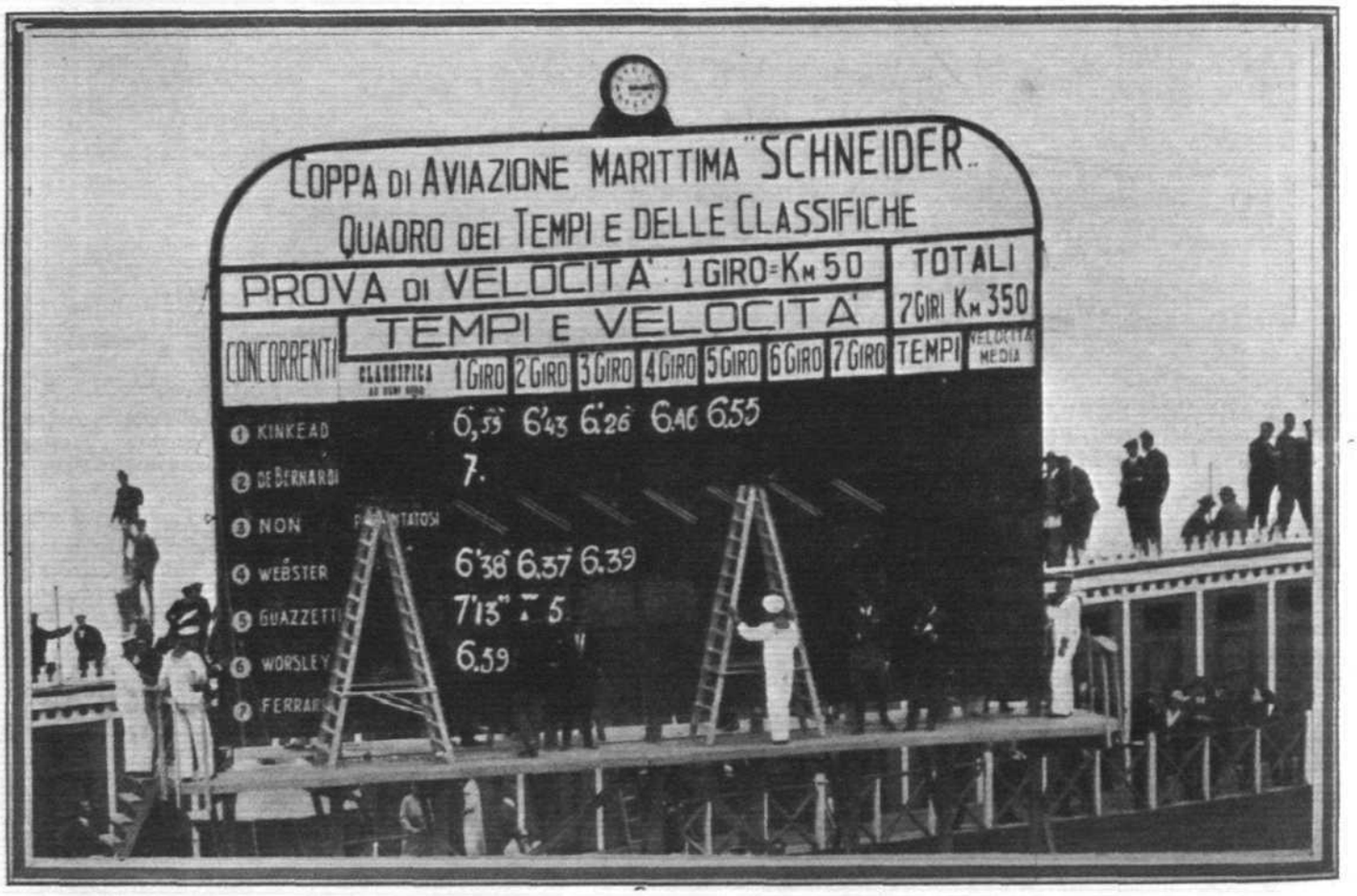
Ing. Castoldi, the designer of the 1927 Schneider Macchi M52, and Col. Tacchini.

minute fraction of a second. They promptly vanished, and then my attention was caught by the Gloster returning on the long leg from Chioggia to Porto di Lido.

Guazzetti and Worsley duly followed, and the Italian favourite, Ferrarin, brought up the rear. He crossed the line out to sea and seemed to be flying a bit off his course, bending rather to the west of the Malamocco pylon.

Then the race became confusing, for one tried to watch several machines in several directions at the same time. But as the leaders got back to the Porto di Lido turn the difference in tactics became obvious. The British were flying more or less on an oval, and commenced to turn left-handed while still a considerable distance from the Porto di Lido mole. It was a gradual process, only culminating at the last moment in a pronounced bank. The way in which all three held down those fast machines and kept them low at the turns aroused the fervid admiration of all pilots who saw it. The Italians, on the other hand, banked violently to over the vertical, the Macchis shooting high up in the air as they did so. When they flattened out they were in a trouble somewhere near Chioggia, turned westward over the lagoon, and reached the air station unknown to the spectators. Now Guazzetti was the only Italian hope. I was informed that his engine was the one which won the race last year, and it had not been boosted as the other two had been. In fact, his machine was the opposite number to Worsley's with the ungeared engine.

Meantime, Kinkead's progress deserved attention. His second lap was better, 6·43, and his third lap worked up to the amazing time of 6·26·84, or 465·402 k.p.h. = 289·186 m.p.h., which smashed all world's records into smithereens. The committee promptly had this fact broadcast by loud speaker and by printed slips. On one lap the Gloster caught up Worsley, who was on another lap, and passed him when approaching the Porto di Lido turn. But, after reaching this zenith of speed, Kinkead began to fall back. His fourth lap dropped to 6·46, and his fifth to 6·55. Perhaps after that one terrific burst his spinner trouble was beginning to develop again. Worsley repassed him and shot far ahead; and in the sixth lap the collapse of the spinner



["FLIGHT" *Photograph*

THE SILENT ANNOUNCER ON THE LIDO:—The score board, from which it will be seen that Italy never reached the 6 mins. per lap mark, while Great Britain was always below the 7 mins.

position to dive; but the dive, quite clearly, did not compensate for the speed which they had lost. I should say that the British gained substantially on every turn, and there was little, if anything, to choose between the handling of our three. All were quite masterly.

Of course, the first sensation was when the times for the first laps of Kinkead and Bernardi went up on the board. Kinkead's read 6.59 and Bernardi's 7. A gain of one second on the very first lap cheered up all British spirits.

But no British spectator rejoiced when Ferrarin was seen returning off his course and obviously making for St. Andrea air station to land. We did not want to win by failures of the Fiat engines; we wanted to outfly our rivals. The dismay on the faces of the Italian spectators was pathetic, and I could not refuse them my sympathy. But, of course, if the Fiats had been boosted to cracking-point, while the Napiers stuck it out, then it was a fair and square victory on engine design.

But worse was to follow. When Bernardi was due back on his second lap, he did not appear. He had found engine on the Gloster forced Kinkead to follow Bernardi's course over the lagoon to St. Andrea.

Only three machines left in! Webster was always flying by himself and lapping steadily with but little variation of time. It was learned afterwards that his cowling was cracked, but no sign of it was apparent in his flying.

Worsley, having finished his little private race with Kinkead, now indulged in another with Guazzetti. Finishing a long leg from Chioggia to Porto di Lido, the blue monoplane was seen to be overhauling its red counterpart. At the turn the Italian banked violently and shot up to a surprising height, while Worsley, holding his machine down, went out of sight behind the scoring board. When he reappeared he was well ahead of the diving Macchi, and steadily increased his lead along to Malamocco. One report said that Guazzetti knew his engine was nearly done, and rather than risk a collision he chivalrously climbed higher than usual at the turn, leaving the air below him free for Worsley. Whether true or not, it was Guazzetti's last effort. Before reaching Chioggia his engine failed. A petrol leak, says one report.

Guazzetti had to come down hurriedly, and with considerable risk, on the pile-studded lagoon. He was the only pilot who could not make St. Andrea.

So the finish of the race was, to tell the truth, rather flat. Webster increased the anti-climax by doubting whether he had done all seven circuits, and starting off on another. But when he crossed the line the last time, and then left the course in a spectacular zoom over the Excelsior Hotel, British throats were opened, and even the ranks of Tuscany did not forbear to cheer.

It was a great victory, and our team—pilots, captain, designers, mechanics—are all great men. But almost as pleasant as the victory is the recollection of the sporting spirit of all the Italian nation. The Crown Prince and General Balbo hastened to congratulate the British team, and all Italians in the Excelsior joined heartily with the British in an uproarious welcome when the three grimy heroes returned there from St. Andrea.

Sqdn.-Ldr. N. H. Slatter, O.B.E., D.S.C., D.F.C., R.A.F., who has been in charge of the High-Speed Flying Team, and has been responsible for carrying out the training in the high-speed practice seaplanes and Schneider machines, is a South African, being born at Durban in 1894. He joined the R.N.A.S. (Armoured Car Division) in November, 1914, in which he served as a Petty Officer Mechanic until 1915.

In 1916 he became a Flight Officer in the R.N.A.S. and was engaged during the next two years in flying operations in the Dover and Dunkirk areas, after which he served in South Russia. He was promoted Flight-Lieut. R.N.A.S. in November, 1917, then Captain on the formation of the R.A.F., and was granted a permanent commission as Flight-Lieut. in 1919. He was promoted Sqdn.-Leader in January, 1924.

Flight-Lieut. S. N. Webster, A.F.C., who has won back the Schneider Trophy for Great Britain, is a Walsall man, being born (in 1900) and educated in that town.



"FLIGHT" *Photograph*

THE CLOSE OF THE 1927 SCHNEIDER CONTEST:—Our picture shows some of the crowd getting away in motor-boats from the private landing stage of the Excelsior Hotel.

THE BRITISH TEAM

The following notes concerning the members of the British team may be of interest:—

Air Vice-Marshal F. R. Scarlett, C.B., D.S.O., who was in command of the British team out in Venice, is Air Officer Commanding Coastal Area, R.A.F. He began his career as a Midshipman in the Navy in 1891, and served in various ranks in home and foreign parts until 1913, when he became Inspecting Captain of Aircraft in the Naval Wing of the Royal Flying Corps.

He served in the R.N.A.S. during the war, in the Mediterranean, and was mentioned in despatches. In the Royal Air Force he was appointed temporary Brigadier-General, and was for a time Director of the Air Division at the Admiralty. He then commanded No. 12 Group, R.A.F., later becoming Air Commodore, and commanded the R.A.F. Technical School for Aircraft Apprentices at Halton. After being promoted Air Vice-Marshal he commanded Coastal Area in place of Air Vice-Marshal Sir Vyell Vyvyan in September, 1924.

Having previously served as a private in the Infantry, he joined the R.A.F. as Second Lieut. in September, 1918. In December, 1919, he was granted a short service commission as a Flying Officer, R.A.F., and obtained his permanent commission in 1924.

After being awarded the Air Force Cross for meritorious flying service, he was promoted Flight-Lieut. in July, 1927. He is not only a daring and expert pilot, but possesses a high degree of technical skill. His native town of Walsall is arranging a civic reception for Flight-Lieut. Webster on his return home, and he has already received a telegram of congratulations from the Mayor of Walsall.

Flight-Lieut. O. E. Worsley, who was the only other competitor to complete the full seven laps of the course, was born at Kensington, London, in 1898, and was educated at Merton House and Westbourne Schools. He joined up as a mechanic in the R.N.A.S. in 1914, became Flight-Officer in January, 1917, and was promoted Flight-Sub-Lieut. in the following June. On the formation of the R.A.F. he was made Flight-Lieut., and during 1918 he served in the

Mediterranean and was specially mentioned in dispatches. He left the Service in 1919, but returned as a short service officer in July, 1921, and was granted a permanent commission early in 1925.

Flight-Lieut. Kinkead, D.S.O., D.S.C., D.F.C., who made a really magnificent effort on the Gloster-Napier IV—the only biplane in the contest—is, like Sqdn.-Leader Slatter, a South African, but is four years younger. He has had a distinguished Service career, having joined the R.N.A.S. as Flight-Sub-Lieut. in September, 1915, and during the war saw service in the Dardanelles and later (1917-18) in the Dunkirk area. He was promoted Flight-Lieut. R.N.A.S. in 1917 and became Captain on the formation of the R.A.F. In 1925 he was responsible for the ground organisation on the northern sector in connection with the first R.A.F. Cairo-Cape flight, and recently has been instructor at No. 5 Flying Training School, Seeland, Chester.

Flying Officer H. M. Schofield, who met with early misfortune (happily without serious hurt) when testing the Short-Bristol "Crusader," was born in 1899 at Battersea, and was educated at secondary schools in that district. Joined the R.N.A.S. as a Flight Officer in 1917, and served with the Royal Air Force in the Adriatic during 1918 and 1919. After the war he left the Service, but returned as a short service commission officer in 1923 as a Pilot Officer, and was promoted Flying Officer in November, 1924.

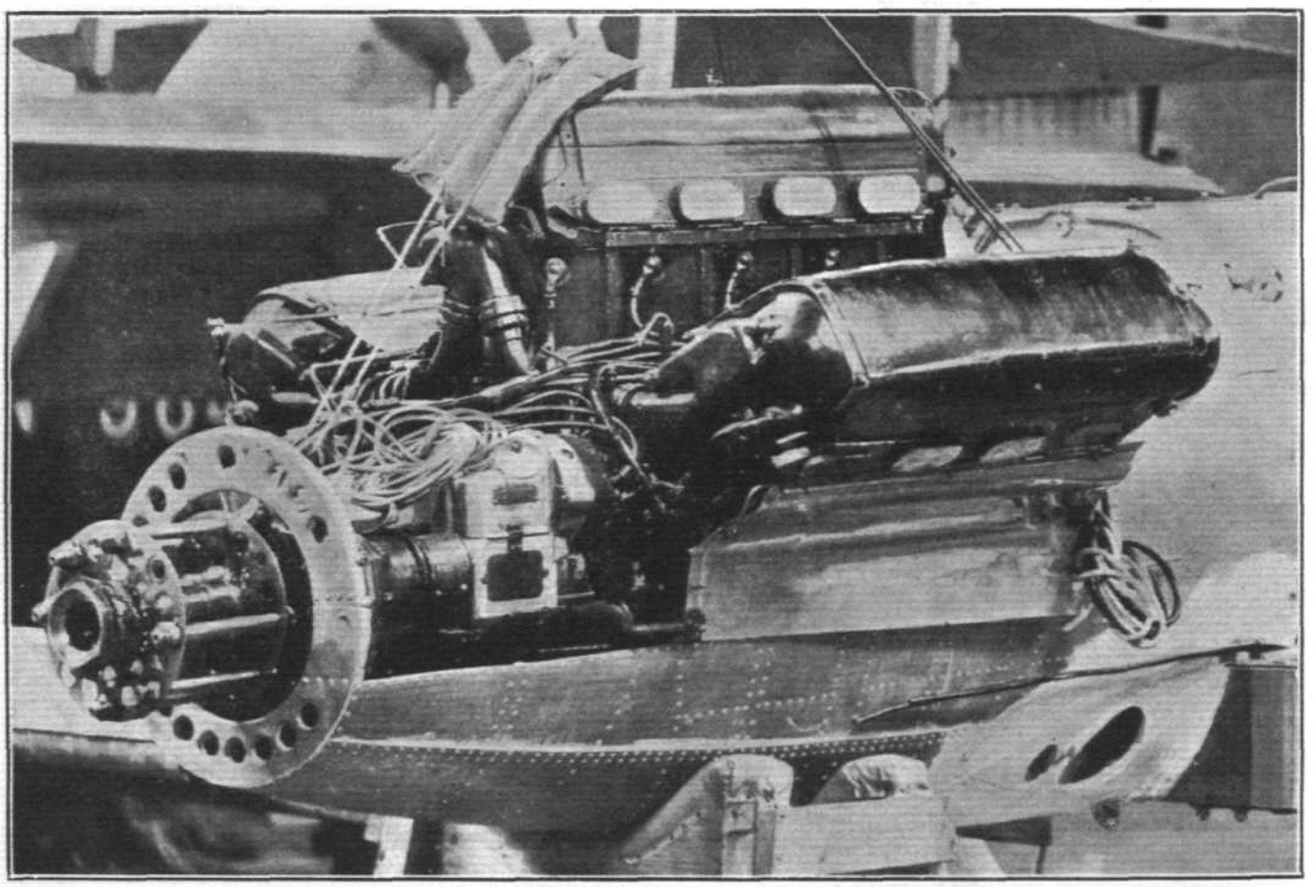
Flying Officer T. H. Moon was the Technical Officer with the team. He was a Chief Petty Officer on the engineering side in the R.N.A.S. at the outbreak of war, and was Warrant Officer in 1917. On the formation of the R.A.F. he became 2nd Lieut. on technical duties, being later promoted Flying Officer.

THE ITALIAN TEAM

Maj. Mario di Bernardi, who was born in 1893, was the winner of last year's Schneider Race, with a speed of 246·5 m.p.h., and is a famous Italian war Ace. Before joining the Italian Air Force he was in the Army. During the practice flights on the No. 2 Macchi M.52 just before this year's race, he put up an exceptionally good performance and was a popular favourite. Fate, however, only allowed him one lap ! He has a distinguished war service career, having been decorated twice for valour ; he brought down 10 enemy machines. The experimental station at Montecelio was under his command.

Capt. Arturo Ferrarin was born in 1895, and was the favourite in last year's Schneider contest, in which engine trouble put him out of the race. Formerly in the Italian Navy, he served in the Air Force during the war, at one time being badly wounded so that he was unable to fly for some time and returned to the Navy. Eventually, however, he got back into the Air Force once again. After the war he took part in a number of notable Italian flights—such as, for instance, the Rome-Tokio flight.

Capt. Feder Guazzetti was also born in 1895. He is not so well known as a pilot outside Italy. Like Ferrarin, he originally studied for the Navy, but on the entry of Italy into the war he joined the Air Force, and won distinction on the Italian front in a number of bombing raids.



A VERY WONDERFUL ENGINE : This photograph shows one of the Napier racing engines fitted in the Supermarine S.5 and Gloster IV machines. In spite of its tremendous power, the Napier racing engine proved itself thoroughly reliable, and there was not a single case of engine failure in the Schneider Race. Note how the cylinder blocks are shaped to carry out the streamlining of the engine cowling.

Some Schneider Items

The Air Ministry received the following telegram from Lord Stamfordham, on behalf of H.M. the King :—

"The King heartily congratulates the Air Ministry and pilot Webster on Victory in Schneider Race."

Sir Samuel Hoare, Secretary of State for Air, sent the following telegram to Air Vice-Marshal Scarlett :—

"Delighted learn successful issue of today's contest with our Italian friends, whose skill and sportsmanship have been so abundantly shown in previous races. Please convey Flight-Lieut. Webster and all concerned my heartiest congratulations on magnificent victory of Supermarine and Napier Lion engine, which is one more proof of unsurpassed excellence of British personnel and materials."

Congratulations and tributes have also been numerous from the Italian side. One of the first to congratulate the British team was Gen. Balbo (Italian Under-Secretary of State for Air).

Among the many distinguished spectators were the Italian Crown Prince, the Duke of Bergamo, the Duke of Spoleto, Col. the Marchese di Pinedo, Sig. Marconi, Gen. Andriani (Chief of Italian Air Force), Count Volpi, Sir Sefton Brancker, etc.

On September 28, the British team was entertained at a luncheon by the Royal Italian Aero Club. Prince Di Scalea, who presided, proposed the toasts of " The King of England " and " British Aviation."

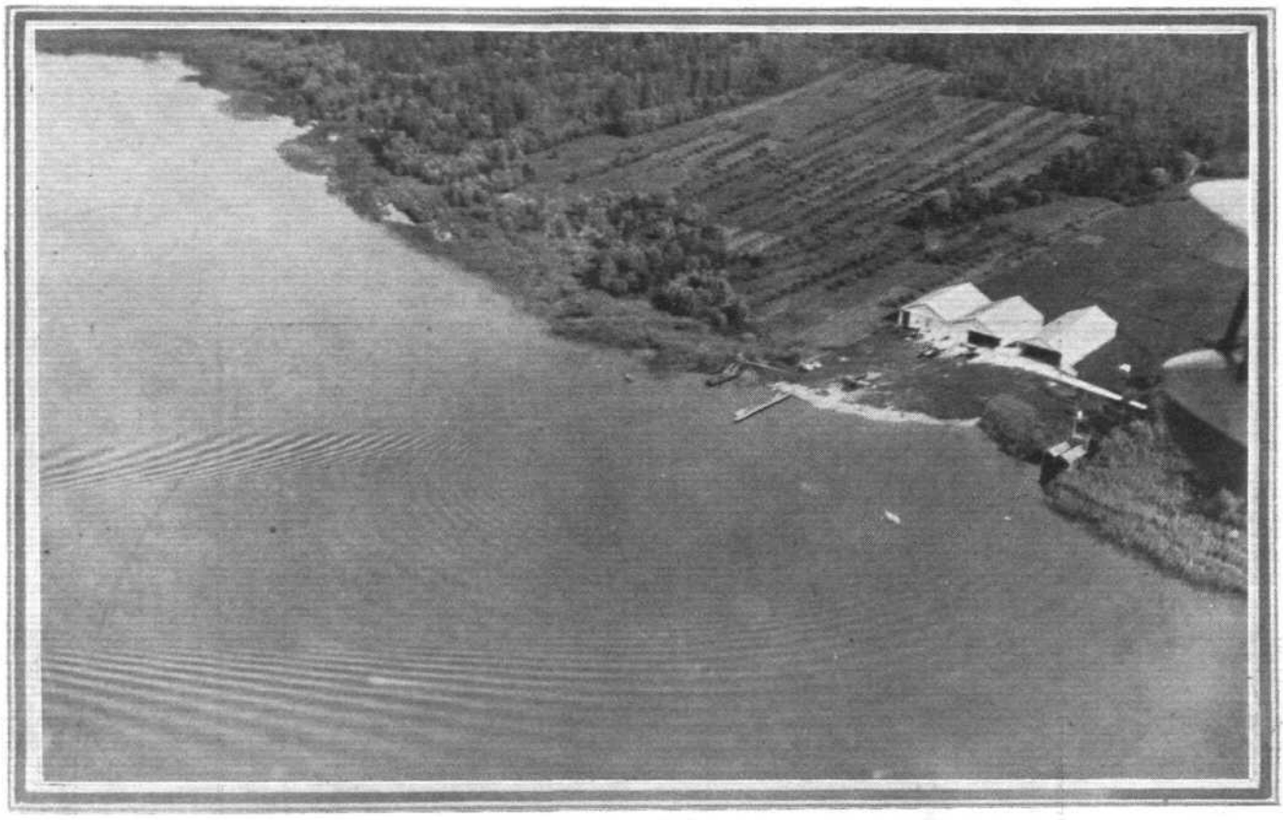
The Italian Aero Club handed over the Schneider Trophy to the British team. The actual Trophy could not be presented as it was too heavy, but the ceremony was carried out symbolically. Prince Scalea, who is President of the Italian Aero Club, voiced the intense admiration for the great feat sent Flight-Lieut. Webster a beautiful gold ring. Each of the three British pilots were also presented with a small, beautifully chased silver cigarette case by the poet.

The British pilots returned thanks to Gabriele D'Annunzio for his lovely gifts in the following message :—" To Gabriele D'Annunzio, soldier, poet, brave aviator during the war, British pilots render thanks, moved and proud that their names should be linked together on this occasion."

The winning Supermarine-Napier S.5 will be used by the Air Ministry for further experiments in high-speed flying.

The British team will be welcomed home by Sir Samuel Hoare and representatives of the Royal Aero Club, Royal Aeronautical Society, Society of British Aircraft Constructors, and the Air League of the British Empire.

The official celebration of the victory will take the form of a Government luncheon by the Air Ministry, at which Sir Samuel Hoare will preside on October 4.



Idroscale Della Schirara, where the Italians tested their Schneider defenders in secret.

of the English pilots. He said : " The Venetian sky has seen many noble sights and valorous deeds in the past, and it is indeed fit that in this same Venetian sky English pilots should have won a victory which stirred the imagination of the whole world. In the past and in the present the spirit of emulation has inspired airmen to ever greater achievements, and in the future the same spirit will drive them forward to ever new conquests. We hope that we shall again win this Trophy, but in the meantime no words of praise can be too high for the skill, bravery and daring of the British victors." When Flight-Lieut. Webster rose to express his appreciation of the Italian welcome on his victory, he blushed, and in a few simple words proposed the toast of the Italian competitors.

It is highly probable that the winning Supermarine-Napier S.5 will be on exhibition in London for the public's inspection.

In view of her age, Mrs. Webster, of Walsall, mother of Flight-Lieut. Webster, has decided not to come to London to welcome her victorious son.

His native town of Walsall is preparing him a Civic welcome when he can get leave from the R.A.F. to attend.

Gabriele D'Annunzio, the famous Italian airman-poet

Lord Thomson will preside at the banquet to be given later by the Royal Aero Club and other aeronautical associations.

Sir Phillip Sassoon, Under-Secretary for Air, arrived back at Lympne from Venice by air on September 28. He had been struck by the number of R.A.F. officers who had managed to get to Venice to see the race.

Miss Spooner, whilst returning alone from the contest in her Moth, made a forced landing in the streets of Albaros, capsizing it, but with no injury to herself.

A mighty crowd is expected at Croydon on Saturday, when he and his fellow competitors arrive at Croydon, at 2.15 p.m., from Paris by air, A large force of police will be in attendance.

The Earl of Dartmouth, Lord Lieutenant of Staffordshire, in a letter to the Mayor of Walsall, referring to Flight-Lieut. Webster, said : " I join with Walsall in her pride of the great performance of one of her sons and share in the congratulations to him."

His fellow R.A.F. officers have promised to give our hero a very good time when he returns.

The British team have accepted an offer of the Imperial Airways to bring them to London in a special aeroplane on Saturday morning, October 1.

The glorious success achieved by the British machines and engines must be shared also by certain " minor " components employed thereon. For instance, " Watford " magnetos were fitted on the Napier engines and, in conjunction with " K.L.G." plugs, performed their all-important duty in connection with the ignition without the slightest trouble.

Again, the various instruments upon which much depended in the skilful piloting of the machines, were supplied by S. Smith and Sons, who also supplied the " K.L.G." plugs.

Both the " S.5s " were fitted with Fairey-Reed metal airscrews, which, together with their spinners, were made by the Fairey Aviation Co., Ltd., of Hayes.

Webster's machine, by the way, was provided with Moseley " Float-on-Air " cushions for both seat and back.

It may also be mentioned that " Mallite "—the well-known plywood, produced by the Aeronautical and Panel Plywood Co., Ltd., of Shoreditch—was used on all the competing machines.

The result of the race, they say, was received by the Italians in the right spirit, and it was won *on* the right Spirit—" Pratt's " !



THE JACQUES SCHNEIDER TROPHY.

FLIGHT
AIRCRAFT ENGINEER AIRSHIPS

PRIVATE FLYING



A Section of FLIGHT in the Interests of the Private Owner, Owner-Pilot, and Club Member

HINKLER'S FLIGHT TO LATVIA

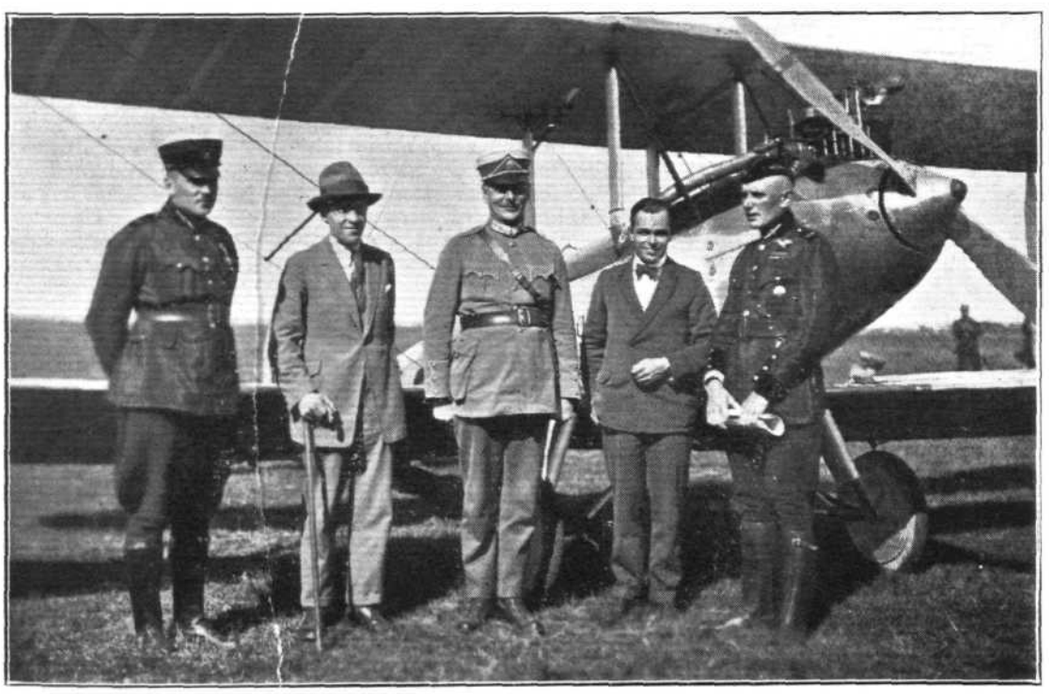
ALTHOUGH not being recognised as a world's record for light 'planes, there having been no time to arrange for officially observing the start, the flight made by Bert Hinkler in his Avro "Avian" with "Cirrus II" engine from London to Riga in 10¾ hrs. on August 27, was a very fine performance indeed, and deserves to rank among the great flights of recent times. The fact that it took place at a time when so many other big flights were being talked about rather prevented Hinkler's effort from receiving the prominence it merited. As the "great little man" has now returned to this country, it has become possible to learn a little of his experiences, and a very brief summary of these are set out below.

Having occasion to go to Riga on behalf of Beardmores', Hinkler decided that the most convenient, and by far the quickest way of getting there would be to fly, and he consequently set the machinery in motion for obtaining an airworthiness certificate for the machine with the extra load of petrol on board.



The "Avian" in Latvia: Mr. Hinkler's machine is the object of a close inspection by the flying personnel. The folding undercarriage was much admired. Note how low the nose comes when the wings are folded and the tail raised, thus facilitating inspection of the engine.

Leaving Croydon in the early morning, Hinkler cut across quite a large chunk of the North Sea, going from Margate to Ostende, onward via Hanover to East Prussia. Not wishing to introduce controversial matters in the League of Nations, Hinkler gave Danzig a wide berth, going far out to sea, right out of sight of land, preferring a long passage to a Polish



The "Avian" in Latvia: After his recent non-stop flight to Riga, Mr. Bert Hinkler took the opportunity to demonstrate his Avro "Avian." He is here seen at Riga with a group of Latvian air officers, including Lieut.-Col. Skourbe, Commander of the Latvian Air Force, Gen. Roushkevitch, and Lieut.-Col. Indan, Chief of the Military Aviation School.

corridor (sorry!), and striking the coast again somewhere in the Memel district. Thence onward he was again over land until he reached Riga, having covered 1,200 miles in 10¾ hours.

At Riga, having finished his work for Beardmores', Hinkler demonstrated the "Avian" before the Letts, who were impressed by its general qualities, and especially by the folding undercarriage, which, in addition to relieving the load on the tail when the wings are folded, brings the engine down low for inspection and adjustment. While in Latvia Hinkler was extremely well received, and so impressed were the Letts that they decorated him with the badge of the Latvian Air Service, a golden eagle suspended from a red swastika.

The return journey was commenced about 10.30 a.m. on Friday, September 9, and Berlin was reached in approximately 8 hrs. flying, against a very strong head wind. Hinkler spent the Saturday in Berlin, and on Sunday, September 11, he left for home at 8 a.m., reaching Croydon at 4.30 p.m., having again had to fight strong contrary winds all the way.

The "Avian" throughout behaved admirably, as did also the "Cirrus" engine. One thing was clearly brought out by the flight: the advantage of a high cruising speed. As Hinkler says, "You want to be able to say that on such and such a day you are going to such and such a place. Not having to qualify that statement by adding 'if the weather is favourable'." On the return journey the "Avian" met head winds all along, but it was able to make the two long journeys in reasonable time in spite of this, and in spite of a very large quantity of petrol on board.

PRIVATE FLYING AT HOOTON

THE aerodrome at Hooton, Cheshire, where the Hooton Air Pageant was held last Saturday, is situated on the south bank of the River Mersey, about eight miles along the river south-east of Birkenhead. Its exact position would be seemingly distinguishable by a long and apparently artificial hill by the water. There are excellent large hangars and most of the civilised facilities. The nearest towns are Liverpool, Birkenhead and Chester, all within a radius of ten miles. The field itself is long and flat and fairly wide. The arrangements for the meeting were on a large and elaborate scale and nothing was left haphazard. There were enclosures for three classes of humanity, loud speakers announcing events, &c., in a hollow tone, and good possibilities in the catering line. There were many helpful policemen and scores of stewards to answer a fusillade of innocent questions. From an aeronautical point of view the attendance was excellent. All the well-known racing pilots were there besides a variable contingent of the R.A.F. Imperial Airways had a liner flying without a pause and initiating scores of enthusiasts to the thrills of the air despite the wretched weather. There were other joy-riding machines equally busy. For hours Sir Alan Cobham was engaged in this work too, carrying passengers in his famous D.H.50. Most of the races found many runners, and there were a few interesting neck-to-neck dashes past the finishing line. In the High Power Handicap Mrs. Eliott-Lynn on her S.E.5A passed Captain Sparks on his S.E.5 fifteen miles from home, and naturally turned into the aerodrome with the race clearly hers; but before coming down the straight the competitors had to bank round a lake at the end of the aerodrome, and this Mrs. Eliott-Lynn apparently failed to do, but she realised her mistake quickly and gauging her chances against Capt. Sparks very luckily she turned back, corrected her error and then came down sweeping the grass towards the line neck-to-neck with Capt. Sparks, beating him by ⅖ secs. The race was naturally all the more interesting for that happening. On the long course of about 30 miles the machines flew out to the coast then came right down the peninsular to the other side at Shotwick, and then across to Hooton with one or two turns. The weather conditions made racing an exacting task. Visibility was very bad, and rain poured ceaselessly the whole time. A severe test must have been keeping straight to the course. In the Low Power Handicap there were about a dozen competitors. Capt. Sparks refused to start as a protest against this number, and also because the race demanded two turns within a very short distance of each other. As the senior pilot he felt he could not voice his protest more wisely than by declining to fly in the race. This was probably a sacrifice on his part for providing the handicap allowance gives him a reasonable chance, Capt. Sparks takes a lot of beating in any race. His action was quite an altruistic one.

Propaganda Effect

These air pageants like Hooton's should enlighten the public about the simplicity of flying for they bring together in combat experienced professionals and amateur private-owners and reveal in many instances an equality in skill as far as racing conditions are concerned, though it may be an unfortunate fact that the public cannot differentiate between them except in one or two cases by familiarity with records. The fine efforts of Lady Bailey, Mrs. Eliott-Lynn and Miss O'Brien in their races with the men must make them unconscious missionaries amongst their sex, and perhaps amongst the other sex too. Mrs. Eliott-Lynn had designs on the light aeroplane altitude record at Hooton in an Alpha-Avian, but the sky was too near the ground.

Essentially, the R.A.F. Display and the variety items, like the parachute descent of Miss June, provided the crowd with the most interest, because, of course, races are apparently all alike to spectators, although the most important part of a meeting. Close formation flying at low altitudes and the crazy flying events are certain draws. The latter attracts a heap of feelings: amazement, delight, surprise and amusement. From a spectacular point of view, it is a boon to flying. It is clever clowning in the air.

There was to have been a Set-Piece carried out by pilots of No. 5 F.T.S. Sealand and officials of No. 2 Ammunition Depot, R.A.F., Altrincham. Spectators would have had to imagine that a state of war existed and the Government had been compelled to pack a week-end case and seek a haven of rest in Liverpool. Here their abode was to be represented by a picture of temporary buildings made of a canvas structure. Enemy aircraft suddenly drop packets of upheaval on this, finding a defence equalling one machine who cannot get a look in anywhere. Government officials bunk and get a good speed on with the help of machine-guns. Come more bombs—exit Government buildings. Help arrives, and chases enemy away, which serves them right. This thrilling spectacle only happened on paper, however, because the rain objected to interference.

When the meeting finished, the pilots and officials were practically alone, for the crowd had gradually dribbled away, through sheer physical wretchedness, to prepare against colds, pneumonia and rheumatism. The danger of air meetings lies more in the English weather than in flying. There were no flying fatalities at Hooton, but one cannot say for certain that there were no weather fatalities. The Press photographers fought against hopeless odds. They could not have taken themselves in that light.

Yorkshire Club's Air Pageant

THE Sherburn Club is holding their annual air pageant on October 1-2. The programme will be far more ambitious than previously, and everything is well in hand for making a very successful meeting. The Chairman is broadcasting a talk in connection with it from Leeds on September 30 at 6 to 6.30 pm.

Duchess of Bedford's Scottish Aerodrome

THE Duchess of Bedford left Woburn Abbey on September 25 in her private aeroplane, a Moth, and reached her Scottish residence, Cairnsmore House, Kirkcudbrightshire, in the evening. The Duchess has had a landing field and shed prepared for her machine whilst in Scotland.

Lieut. Bentley's Fine Flight

THIS South African pilot who left England in his Moth on September 1 reached Johannesburg, on September 26. He was escorted to the town by five S.A. Air Force machines, and was warmly welcomed. He will continue to Cape Town as originally arranged.

Aero Clubs for Canada

COL. J. L. RALSTON, Minister of National Defence, announces that the Canadian Government is to assist in the creation of light aeroplane clubs in Canada. Two machines will be issued to each club on condition that the club provides maintenance, a field or seaplane station and instructor. Every year the Government may grant each club another machine if the club supplies itself one, too.

Yorkshire Accident

WHILST flying at Sherburn, the Yorkshire club's home, on September 23, Captain Millburn, a private owner, crashed after a short flight. His passenger, Miss Dorothy Ellison, was killed and he was seriously injured.

FLIGHT

LIGHT 'PLANE CLUBS

London Aeroplane Club, Stag Lane, Edgware. Sec., H. E. Perrin, 3, Clifford Street, London, W.1.
Bristol and Wessex Aeroplane Club, Yate, Gloucester. Secretary, Lieut.-Col. C. Fleming, Filton Aerodrome, Patchway.
Hampshire Aeroplane Club, Hamble Southampton. Sec., Maj. Ross White, Hamble, Southampton.
Lancashire Aero Club, Woodford, Lancs. Sec., C. J. Wood, Oakfield, Dukinfield, near Manchester.
Midland Aero Club, Castle Bromwich, Birmingham. Sec., Maj. Gilbert Dennison, 22, Villa Road, Handsworth, Birmingham.
Newcastle-upon-Tyne Aero Club, Cramlington, Northumberland. Sec., A. H. Bell, c/o The Club.
Norfolk and Norwich Aero Club, Mousehold, Norwich. Sec., H. O. Bennett, 5, Opie Street, Norwich.
The Scottish Aero Club Movement, 101, St. Vincent Street, Glasgow. Sec.: Harry W. Smith.
Suffolk Aeroplane Club, Ipswich.—Secretary, Courtney N. Prentice, "Hazeldell," Stowmarket, Suffolk.
Yorkshire Aeroplane Club, Sherburn-in-Elmet, Yorks. Sec., D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.

LONDON AEROPLANE CLUB

REPORT for the week ending September 25.—Flying time : 26 hrs. 55 mins. dual, 12 hrs. 35 mins ; solo, 12 hrs. 25 mins. ; passenger flights, 1 hr. 55 mins.

Dual instruction (with Capt. F. G. M. Sparks).—J. W. Radbone, R. G. Whalley, I. E. Furlong, Capt. Burt, M. Parkin. ; (with Capt. S. L. F. St. Barbe) : F. Yeats-Brown, G. W. Hall, Miss Wilson, W. L. M. O'Connor, L. Rowson, G. Black, L. Martin, G. E. Clair, Capt. Burt, F. C. Fisher, J. Bickley.

Solo Flying.—Miss O'Brien, B. B. Tucker, A. F. Wallace, I. C. Horton, A. R. Ogston, Major Beaumont, G. H. Craig, J. H. Saffery, K. V. Wright, Capt. Spooner, O. J. Tapper, Will Hay.

Passenger Flights (with Capt. S. L. F. St. Barbe).—Mrs. Hughes, Mr. T. Hughes ; (with R. Malcolm) : C. D. Elliott ; (with Major Beaumont) : J. Nesbitt ; (with G. H. Craig), A. Fowler.

The London Aeroplane Club was represented by one D.H. "Moth," at the Hooton Park Meeting, on Saturday, 24th inst.

Capt. F. G. M. Sparks won the "Cirrus" Mark I Engine Race, and Mr. Will Hay won the Landing Competition, while Miss S. O'Brien was second in the Ladies' Race.

BRISTOL & WESSEX AEROPLANE CLUB

REPORT for week ending September 24.—Flying time, 14 hrs. 55 mins. Instruction, 5 hrs. 45 mins. ; soloists, 1 hr. 20 mins. ; passenger and cross-country, 7 hrs. 50 mins.

Instruction (with Mr. Bartlett).—Miss O. Miles, Miss H. Pitman ; Messrs. H. H. Bromham, P. H. H. Bryan, A. H. Downes-Shaw, P. Pitman, J. H. Roberts.

Soloists (under instruction).—Messrs. A. H. Downes-Shaw, J. E. Tratman.

Passenger (with Mr. Bartlett).—Master A. Parish.

Our Chairman, Mr. A. H. Downes-Shaw accompanied by Mr. Bartlett, flew up to Liverpool on Saturday for the Merseyside Meeting.

We have had many acceptances for our opening day, on October 8. We hope that anyone who wishes to fly down to Bristol for this event, and who wants to stay the night in Bristol, will communicate with the secretary, who will be delighted to arrange accommodation.

HAMPSHIRE AEROPLANE CLUB

REPORT for week ending September 25.

Weather :—Tuesday, gale and rain ; Wednesday, gale and rain ; Thursday, gale and rain ; Friday ; torrential rain after 12.00 hrs.

Total flying time, 12 hrs. ; instruction, 6 hrs. 50 mins. ; soloists, 4 hrs. 15 mins. ; passengers, 20 mins. ; test flights, 35 mins.

Instruction with Flt./Lt. Thomson :—Miss Home, 1 hr. 10 mins. ; Lt. Mandeville, R.N., 1 hr. ; Lt. Richardson, R.N., 40 mins. ; Lt.-Commander Woodhouse, 30 mins. ; Lt. Lambe, R.N., 25 mins. ; Messrs. Evans, 55 mins. ; Hancock, 20 mins. ; Boileau, 25 mins. ; Hall, 15 mins. ; Duggan, 15 mins. ; Mellor, 5 mins. ; Baynes, 45 mins. ; and Everett, 5 mins.

Joy riders with Flt./Lt. Thomson :—Mrs. Hallier and Mr. Hallier. With K. P. L. Bowen, Mrs. Crook and Mr. Lovett. With E. I. C. Wyllie, Mr. Herriot, and Mr. Kirk. With Mr. Fagan, Miss Clapper and Mr. Rickards.

Soloists :—Lt. Graham, R.N. ; F./O. Southey ; Messrs. Sanders Clark, Mellor, Fagan, Bowen, Wyllie, Wells, and E. A. L. Parker.

At the request of several members, a fund has been started for the purchase of another aeroplane and if a rapid response is met with, it is probablethat one of several available machines will be tendered for immediately.

LANCASHIRE AERO CLUB

REPORT for week ending September 25.—Owing to the Hooton Park meeting, flying figures for the week are not available at the moment, and will be included with next week's report.




Lectures before the Royal Aeronautical Society and the Institute of Aeronautical Engineers

THE following is a programme of the forthcoming autumn lecture session :—

Oct. 6.—"Aviation," by Mr. F. Handley Page, C.B.E., F.R.Ae.S.
Oct. 13.—"The Practical Side of Performance Testing of Aircraft," by Sqd.-Ldr. T. H. England, D.S.C., A.F.C.
Oct. 20.—"Safety Devices of Aircraft," by Mr. M. L. Bramson, A.C.G.I., A.F.R.Ae.S., M.I.Ae.E.
Nov. 3.—Joint Meeting with the Institution of Automobile Engineers. "High-speed Compression Ignition Engine Research," by Mr. H. B. Taylor, A.F.R.Ae.S.
Nov. 17.—"The Use of the Wind Tunnel in the Prediction of Aeroplane Performance," by Mr. R. K. Pierson, A.M.Inst.C.E., F.R.Ae.S.
Nov. 24.—"Modern Developments in Aircraft Instruments," by Maj. C. J. Stewart, O.B.E., M.I.Mech.E., F.R.Ae.S.
Dec. 1.—"The Problem of the Long-range Flying Boat," by Maj. J. D. Rennie, A.R.T.C., A.M.Inst.C.E., F.R.Ae.S.
Dec. 8.—"Fog," by Capt. F. Entwistle, B.Sc.

On behalf of the Club, one returns thanks to the many pilots and sportsmen who flew to, at, and from Hooton Park over the week-end, and under very adverse weather conditions. No one could possibly have been blamed for "cutting out" on Saturday, and yet, up to 5.30 p.m., at which hour flying was washed out for the day, every item on the programme had been carried out, and only three out of sixteen events remained. Two of these were flown off on Sunday morning, and the "Set Piece" (which the authorities decided would have been blown down before it could be blown up) was the only item not performed. For which result, much thanks.

The attendance was rather less than one-tenth of what it ought normally to have been, and one is of the opinion that the 5,000 or so spectators who saw the show through were not without a touch of heroism. However, from comments overheard, they seemed to feel that they had their money's worth—and they had !

Financially, it is doubtful if the meeting benefited anyone except the dangerous Sparks-Hay combination and our most renowned lady pilot (Oh ! yes—and the B.A.I.G., one had almost forgotten them !), but it did definitely do civil aviation a bit of good, and it brought about a gathering of cheery sportsmen, whose spirits seemed to rise superior to any moisture, whether applied internally or externally. So, who shall say that it wasn't well worth while ?

We are broke for the rest of the year, so here's wishing fine weather and every success to the Yorkshire and Bristol meetings, so that we may be able to go and borrow a fiver off them in our hour of need.

SUFFOLK AEROPLANE CLUB

REPORT for week ending September 25.—Flying time, 6 hrs. 10 mins.

Instruction (with Mr. D. Carnegie) : Miss Creasy, N. Creasy, Dr. Sleigh, G. Hutley, S. Schofield, H. Billinton ; (with Mr. Comper) R. Pettiward ; (with Sergt. Lodell), G. Hutley.

Passengers.—S. Hutley, V. Bayles. Solo.—Courtney N. Prentice.

Flying has only been possible on two days this week. Several new members have been enrolled, and three of our members have made excellent progress, and are almost ready for solo.

NEWCASTLE-UPON-TYNE AERO CLUB

REPORT for week ending September 25.—Flying time : 15 hrs—Instruction, 3 hrs. 25 mins. ; soloists, 20 mins. ; "A" pilots, 10 hrs. 10 mins. ; tests and passengers, 1 hr. 5 mins.

Instruction : With Mr. Parkinson—Messrs. McDougal, Lawson, Alderson, Griffiths, Glenny.

Soloists, under instruction : Mr. McDougal.

"A" pilots : Messrs. Maxwell, Jewett, Turnbull, Mathews, Elmes, Mrs. Heslop, Lieut. A. P. C. Hanney, Dr. Dixon, Messrs. C. Thompson, R. N. Thompson.

Passengers : With Mr. R. N. Thompson—Miss Cokayne, Mr. P. Lawson. With Mr. C. Thompson—Mrs. Heslop, Mr. Bulmer and Mr. Luckman. With Mrs. Heslop—Mr. C. Thompson. With Dr. Dixon—Miss Dixon.

The weather has again been vile, only two reasonably decent days having been experienced, and on these days six and seven hours each were flown out of the total of 15 hours for the week. In addition, only one machine is on service.

The club has had the pleasure of a visit from Flight-Lieuts. Pierce and Crofton and Flying Officer Thorne during the week-end, who have been co-operating with local anti-aircraft units.

A very happy evening was spent on Sunday when, among other attractions in the programme of entertainments, the performance of a one-armed violinist was much appreciated.

The club very much regrets to learn of the accident to Capt. Milburn, who has been a very popular member for some time. The members are very pleased to know that at the time of writing these notes he is making good progress and sincerely hope that he will have a speedy recovery.




Dec. 15.—"The Development of Torpedo-carrying Aircraft," by Maj. F. A. Bumpus.

The lectures will take place at the Royal Society of Arts, 18, John Street, Adelphi, W.C.2, at 6.30 p.m., except the joint meeting on November 3, which will be held at 7.45 p.m.

Canadian Government Orders Aircraft

ACCORDING to the *Times*, the Canadian Government has placed an order for 26 aeroplanes at a cost of £80,000. The types include three Fairchild monoplanes, twelve Avro land machines, and two D.H. machines. This is in pursuance of its more active air policy.

Seeking Oil by Air

FLIGHT.-LIEUT. WACKETT left Australia for New Guinea in command of two Supermarine "Seagull" amphibians to join a party of experts who are going on a three months' search for oil.

Aviation Gold Medal Awarded

THE late Captain F. L. Barnard was posthumously awarded the Aviation Gold Medal of the Institute of Transport for his lecture on "Commercial Flying."

AIRISMS FROM THE FOUR WINDS

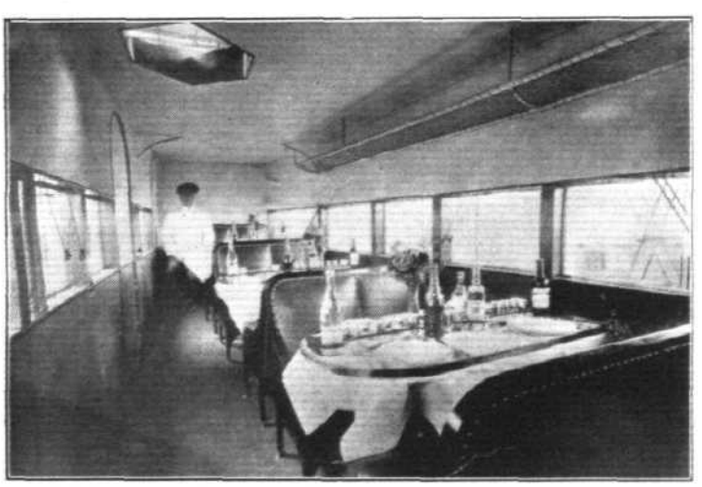
American Air Races

THE winner of a Spokane air race across America by stages was Mr. C. W. Holman. He wins the first prize of £2,000. He covered the distance of 2,273 miles from New York to Spokane in 19 hrs. 42 mins. 52 secs. The second pilot, Mr. E. C. Ballough, arrived 28 mins. after him. The third pilot was Mr. N. B. Mamer. This was the Class "A" event. In the Class "B" event over the same course Mr. C. W. Meyers, Mr. L. Miller, and Mr. J. S. Charles finished in that order. The second named was the favourite.

THE great *non-stop* race from New York to Spokane commenced on September 21, and the competitors were Mr. E. Stinson, in a Stinson machine, Mr. E. A. Schiller, in the "Royal Windsor," Mr. S. Lacey, in the "Air King," and Mr. John Rand. The first two only actually started, and the good progress of Schiller was reported at times by messages he dropped in Ontario and Michigan. Neither, however, reached Spokane. Schiller landed at Billings, Montana, through lack of fuel, and Stinson landed at Missoula, Montana, 200 miles from his goal, through engine trouble. Lacey started from New York on September 22, and was immediately forced to return after an adventurous struggle with petrol fumes.

New R.A.F. Cruise

ON October 17, four R.A.F. Supermarine "Southamptons" will leave Cattewater Seaplane Station, Plymouth, for a long tour to Australia and Singapore. On the completion of the cruise the machines will remain stationed at Singapore. They will be under the command of Group-Captain Cave-Brown-Cave. The second in command of the flight will be Sqnd.-Leader G. E. Livock, who has recently returned after an inspection of suitable landing places between India and Australia. The other officers will be:—Flight-Lieuts. P. E. Maitland, S. T. Freeman, D. V. Carnegie, C. G. Wigglesworth, and H. G. Sawyer; also Flying Officers B. Cheeseman, S. D. Scott, and G. E. Nicholetts. There will be two flying boats ready at places along the route chosen for use in emergency. About 25,000 miles will have been flown when the cruise is finished.



AN AERIAL RESTAURANT: An interior view of the cabin of one of the Air Union machines (two Bristol "Jupiters") fitted up as a dining car. It is in daily service (Sundays excepted) on the London-Paris route, and on the Paris-London trip a four course hot luncheon is served, tea being served on the London-Paris flight. Seating (or "eating") accommodation is provided for 12 passengers, and the kitchen is located in the nose. The catering arrangements are carried out by the Cie Internationale des Wagons-Lits, whose steward is on board to attend to passengers

At Last!

MR. LEVINE and his pilot, Capt. Hinchliffe, left Cranwell, Lincolnshire, on September 23 in the monoplane, "Miss Columbia," after long delays through bad weather. About 380 gallons of petrol was carried, and under this load the machine made a rather difficult ascent. The object of the flight was to reach India non-stop, but a forced landing was made at Vienna the same day owing to propeller and other trouble, and the project was then abandoned. On September 25 they flew on to Venice to see the Schneider Trophy Race.

German Air Disaster

A LUFTHANSA air liner on the Berlin-Munich service crashed on September 23, and the pilot, Herr Charlett, mechanic and four passengers were killed. Among the passengers was the German Ambassador for U.S.A., Baron von Maltzan.

Germany-Angora Non-Stop

THE German pilot, Herr Könnecke, flew a Caspar biplane, "Germania" from Cologne to Angora, in Turkey in Asia, a distance of 1,875 miles in 18 hrs., on September 20-21. He was accompanied by Count Solms and a wireless operator, Herr Herrmann. This was a completely successful long-distance flight, for the stage flown was in accordance with the proposed arrangements. The course followed was through Budapest, Belgrade and Varna. The Black Sea was skirted, then came Constantinople, and finally Angora *via* Eskishehir.

France—South American Air Service

THE French Government has given postal concessions for the air mail between France and South America to the Compagnie Générale Aeronautique, and has agreed to subsidise them for an air service between France, Dakar, Rio de Janeiro and Buenos Aires. The company plans to start this line in the next few months.

Upside Down Records

THE German pilot, Herr Fieseler, recently flew upside down for 10 mins. 56 secs. which was claimed as a record. It brought forward the fact, however, that one of our Air Force officers in Egypt had previously flown for 11 mins. 42 secs. Now Herr Fieseler has beaten his own time by flying upside down for 15 mins., and covering 17 miles in the process by reaching Bonn from Cologne. Another machine flew alongside during his flight and its pilot testified to the fact that Herr Fieseler remained in the reversed position all the time. At the arrival at Bonn aerodrome he concluded his feat by looping, and then made a perfect landing. The strain of his accomplishment had clearly affected him.

New Aerodrome

A NEW aerodrome for two R.A.F. bombing squadrons is to be made at Boscombe Down, Wiltshire, the work beginning next month. It is estimated that the total cost will be £271,000.

Echo of Atlantic Disaster

THE City of London, Ontario, offered the gift of a house to Mrs. Tully, the widow of Captain Tully, who lost his life when the "Sir John Carling" machine failed somewhere over the Atlantic on its effort to get across recently. The gift was accepted. Mrs. Medcalf, widow of Lieut. Medcalf, the navigator on the flight, will receive an income from a trust fund raised by the sponsors of the attempt.

Air Season Tickets

SEASON tickets are a feature of the Air Union's service between London and Paris. The price allows a 33⅓ per cent. discount on the advertised rates. Women use them considerably. On German and Belgian airways the season ticket has been found necessary, too. Our own Imperial Airways have not as yet started to do likewise but the scheme will no doubt be considered.

A Cow's Slip!

A *British United Press* message tells the story of a cow which got in the way of an aeroplane when it was about to land. The pilot, Senor Jose Carlino, of the Argentina, had a narrow escape, the machine was wrecked, and the cow will not stray in front of another aeroplane.

FLIGHT
AIRCRAFT ENGINEER AIRSHIPS

THE ROYAL AIR FORCE

London Gazette, September 20, 1927

General Duties Branch

The follg. Pilot Officers are promoted to rank of Flying Officer :—A. W. H. Nelson (July 6) ; L. H. Anness, L. H. Mason, R. C. H. Monk (July 12) ; G.E. Campbell, D.F.M., A. H. Owen (Sept. 1). Pilot Officer on probation J. H. Leach is confirmed in rank and promoted to rank of Flying Officer (Aug. 22) ; and Flight Lt. G. M. F. O'Brien, D.S.C., is restored to full pay from half pay (Sept. 1) ; Squadron Leader R. M. Drummond, D.S.O., O.B.E., M.C., is seconded for two years' duty with Royal Australian Air Force (Aug. 3) ; Flight Lt. J. B. Allen is transferred to Reserve, Class A (July 5).

The follg. Flying Officers are transferred to Reserve, Class C :—C. W. S. Chalmers (Sept. 20) ; R. H. Rose (Sept. 20) ; A. C. Meredith (Sept. 22). The short-service commn. of Pilot Officer on probation J. F. Duff is terminated on cessation of duty (Sept. 21).

Stores Branch

Flight Lt. F. T. McElwee is placed on retired list (Sept. 21).

Medical Branch

The follg. are granted short-service commns. in rank of Flying Officer for three years on Active List, with effect from, and with seniority of, Sept. 8 :—G. T. O'Brien, P. O'Callaghan. Flying Officer W. D. Guyler is promoted to rank of Flight Lt. (Dental) on promotion to Capt. in Army Dental Corps (June 17).

Memorandum

The permission granted to Sec. Lt. H. O. K. Ayling to retain rank is withdrawn on his enlistment in Territorial Army (June 1).

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

The follg. are granted commns. in Class A.A. as Pilot Officers on probation —E. H. Armitage, H. O'B. Howat. H. R. Turner (Sept. 5) ; T. R. Morrison (Sept. 6). Pilot Officer on probation E. L. Purdy, M.C., is confirmed in rank (Sept. 16) ; Flying Officer H. C. E. C. P. Dalrymple is transferred from Class A. to Class C (June 4) ; Flight Lt. R. C. Preston, A.F.C., resigns his commn. in Class A on appointment to a commn. in the Special Reserve (Sept. 20) : R. C. Preston, A.F.C., is granted a commn. in the Special Reserve as Flight Lt. (Sept. 20).

The follg. Flying Officers relinquish their commns. on completion of service —E. S. Clark (Sept. 2) ; D. M. Deighton, A.F.C. (Sept. 9). The commn. of Pilot Officer on probation A. B. Maconochie is terminated on cessation of duty (Aug. 30).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified :—

General Duties Branch

Flight Lieutenants : P. C. Wood and G. M. Knocker to R.A.F. Base, Calshot ; 12.9.27. D. L. Evans, M.C., D.F.C., to R.A.F., M.T. Depot, Shrewsbury ; 19.927.

Flying Officers : J. W. New, to No. 216 Sqdn., Middle East ; 9.8.27. G. L. Gandy, to No. 99 Sqdn., Bircham Newton ; 5.9.27. B. F. R. M. Freeman and J. W. Thompson, to No. 16 Sqdn., Old Sarum ; 22.8.27.

Flying Officers : F. E. Arnold, D.F.C., and Victor Croome, to No. 1 School of Technical Training (Apprentices), Halton; 19.9.27. L. E. Cutforth to R.A.F. Depot, Uxbridge ; 20.8.27.

Pilot Officers : A. L. Mortimer and C. D. C. Boyce, to R.A.F. Base, Calshot; 12.9.27. N. F. V. Henkel to R.A.F. Depot, Uxbridge, on appointment to a Short Service Commn. as Pilot Officer (on probation) ; 9.9.27.

Medical Branch.

Wing Commander H. W. Scott, M.B., B.A., to No. 21 Group H.Q., West Drayton, for duty as Senior Med. Officer, 4.10.27.

Squadron Leader (Dental) : A. K. Macdonald to R.A.F. Depot, Uxbridge, on appointment to a temp. Comm., 5.9.27.

Flight Lieutenants : E. G. Howell to R.A.F. Depot, Uxbridge; 27.8.27. W. P. Conolly (Q.Mstr. Med.) to R.A.F. Depot, Uxbridge, 2.9.27.

Flying Officers : G. T. O'Brien and Patrick O'Callaghan to Research Lab. and Med. Officers' School of Instruction, on appointment to Short Service Commns.; 8.9.27.

NAVAL APPOINTMENTS

The following appointments were made by the Admiralty on September 24 :

Lieuts. (Flying Officers, R.A.F.) : C. B. Tidd and R. A. Aldridge, to *Courageous*, and for full flying duties in 404A Flight ; Sept. 1, and on commg.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

As reported in last week's issue of FLIGHT, it was announced at the Committee meeting of the Royal Aero Club on September 14, that the following aviators were granted certificates :—

8124	Thomas James Raglan Cornewall-Walker ..	.. De Havilland School.
8125	Vicomte Jacques de Sibour	.. De Havilland School.
8126	George Martin Pares ..	.. R.A.F. Graduation Certificate.
8127	Frederic George Forshaw	.. Lancashire Aero Club.
8128	Eric Darwent Ward ..	.. Lancashire Aero Club.
8129	Harry Osborne Pargeter	.. Newcastle-on-Tyne Aero Club.
8130	William Dalton Wormald	.. Henderson Flying Sch.
8131	James Sandys Ker Inskip	.. De Havilland School.
8132	Arthur Johnstone Richardson	London Aeroplane Club.
8133	Frederick Alan Irving Muntz..	Henderson Flying Sch.
8134	Sydney Arthur Morse..	.. De Havilland Flying School.
8135	Leslie Charles Davey ..	.. Newcastle-on-Tyne Aero Club.
8136	Albert John Mulder ..	.. London Aeroplane Club.
8137	Winifred Evelyn Spooner	.. London Aeroplane Club.
8138	Antonio Bessa Torres	.. Lancashire Aero Club.
8139	David Constable Maxwell	.. Newcastle Aero Club.
8140	Isabella Heslop (Mrs.)	.. Newcastle Aero Club.
8141	Henry Jewett	.. Newcastle Aero Club.
8142	Madeleine Constance Mary Woodhead	Yorkshire Aeroplane Club.
8143	Ralph Eric Herbert Allen	.. De Havilland School.
8144	F. Douglas Mill ..	.. De Havilland School.
8145	Jack Chapman.. ..	.. Lancashire Aero Club.
8146	Thomas Edwin Mandall Wardill	Newcastle Aero Club.
8147	Dennis Wilson ..	.. Newcastle Aero Club.
8148	Frank Ollerenshaw Harber	.. Lancashire Aero Club.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.
H. E. PERRIN, Secretary.

British Light Plane Record Homologated

THE Royal Aero Club has received a notification from the Fédération Aeronautique Internationale that the following world's record (light aeroplanes, 3rd category), has been granted :—

Speed over 100 kilometres.—Capt. H. S. Broad (Great Britain) on a De Havilland "Tiger Moth" 32/130 h.p. De Havilland Engine, at Stag Lane Aerodrome, Edgware, on August 24, 1927 ; 300·100 kilometres (186·47 miles) per hour.

Guggenheim Meteorological Committee

THE Daniel Guggenheim Fund for the Promotion of Aeronautics has formed a committee to further the advance of the art and science of meteorology in aviation. Research work will not be taken up, but the committee will be in a position to encourage and support investigation by suitable persons or institutions, and to direct attention to essential problems.

Royal Air Force Flying Accident

THE Air Ministry regrets to announce that as the result of an accident at Leadenham to a D.H.9A machine of The Royal Air Force Cadet College, Cranwell, on September 9, Flight-Cadet Robert Spencer Beddall, the pilot and sole occupant of the aircraft was seriously injured and died in hospital on September 10.

As the result of an accident at Hinaidi, Iraq, to a Bristol Fighter machine of No. 30 (Bombing) Squadron, Iraq, on September 15, Wing-Commdr. Arthur Bruce Gaskell, D.S.C., the pilot of the aircraft, was killed, and 361810 Leading Aircraftman William Ronald Kittow-Roberts died of injuries.

FOCKE-WULF F 19

(*Concluded from page* 681)

apex of a vee formed by the axle and its radius rod. It would appear that the ground clearance of the fuselage is rather small, and possibly the incorporation of some form of "spring bottom" might be an advisable addition in a production type of machine, so that in case of undercarriage failure the fuselage itself would absorb a certain amount of shock. Under the forward portion of the fuselage is a third wheel, partly buried in the fuselage. As far as we know, this wheel is not made steerable, but there should be no difficulty in making it so, when the machine should be very easy to taxy about on the ground at speeds so low that the air rudder would have little effect. Wheel brakes are incorporated in the main wheels, and owing to the location of the third wheel well out in front, these can be applied without fear of turning the machine over. In fact, it would probably be next to impossible to turn the machine over on the ground.

Two Siemens radial air-cooled engines of 75 h.p. each are mounted under the wing, in streamline cowlings. The two petrol tanks are built into the leading edge of the wings, one on each side, and fireproof bulkheads separate the engines from the wing structure. The location of the petrol tanks is such that direct gravity feed can be employed.

As already stated, no performance figures are available, but the wind tunnel tests indicated that the efficiency of the "Ente" is about the same as that of a good modern commercial aeroplane of orthodox type.

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THE ROYAL AERONAUTICAL SOCIETY AND INSTITUTION OF AERONAUTICAL ENGINEERS

OFFICIAL NOTICES

R 38 *Memorial Prize.*—The R.38 Memorial Prize, offered annually for the best paper received by the Society on some subject of a technical nature in the science of aeronautics, has been awarded this year to Wing-Commander T. R. Cave-Browne-Cave, C.B.E., A.M.I.Mech.E., A.M.Inst.N.A., F.R.Ae.S., for his paper entitled, "Safety from Fire in Airships." The paper will be published in the October number of the Journal.

Prizes.—The Regulations for the Edward Busk Memorial Prize of 20 guineas, and for the R.38 Memorial Prize of 25 guineas, may be had on application to the Secretary. Entries for the former must be received by September 30, and for the latter by December 31. The closing dates for the papers themselves are December 31 and March 31 respectively.

Will readers note that on and after October 1, 1927, the amalgamation between the Institution of Aeronautical Engineers and the Royal Aeronautical Society will be in force, and all communications should be addressed to: The Secretary, The Royal Aeronautical Society, with which is incorporated the Institution of Aeronautical Engineers, 7, Albemarle Street, Piccadilly, W.1.

The Journal of the Institution will cease as a separate publication with the September issue, and will be merged in the Journal of the Royal Aeronautical Society, with which is incorporated the Institution of Aeronautical Engineers.

J. LAURENCE PRITCHARD, *Secretary*

* * * *

PERSONALS

To be Married

The marriage arranged between FLIGHT.-LIEUT. B. H. C. RUSSELL, R.A.F., eldest son of Mr. and Mrs. Russell, of Barnet, and ELIZABETH MARY, youngest daughter, of the Rev. and Mrs. H. NAPIER KINGDON, of Springfield, Stockbridge, will take place at Bombay about December 19.

The engagement is announced between CHARLES EDGAR YOUNG, R.A.F. Reserve, Fettes College, Edinburgh, only surviving son of Prof. Sydney Young, D.Sc., F.R.S., and of Mrs. Young, 13, Clyde Road, Dublin, and DOROTHY VERE WHITE, daughter of the BISHOP of LIMERICK and Mrs. White.

Death

WING-COM. ARTHUR BRUCE GASKELL, D.S.C., who was killed on September 15, as the result of an air accident at Hinaidi, Iraq, had been for the past year engaged on air staff (training) duties on the staff of Air Vice-Marshal Sir Edward Ellington, Air Officer Commanding in Iraq. Born on September 7, 1888, he entered the Royal Navy and in 1912 took up aviation. He was gazetted flight-lieutenant in the first gradation list of the Royal Naval Air Service, was promoted to flight-commander in September, 1914, and to squadron-commander in January, 1916, and became major, R.A.F., in April, 1918, transferring to a permanent commission as squadron-leader in August, 1919, and being promoted to wing-commander on January 1, 1924.

He was commended by the Admiralty for his meritorious work in air attacks on Ostend, Zeebrugge, and Bruges, in February, 1915. He was awarded the D.S.C. in April, 1918, in recognition of his services on the occasion of the evacuation of the R.N. Air Station at Thermi-Mitylene in October, 1917. He leaves a widow and two young daughters.

* * * *

British Standard Engineering Drawing Office Practice

RECOMMENDATIONS for British Standard Drawing Office Practice, dealing with a standard procedure for submitting drawings, tracings and blue prints, to be adopted by manufacturers and contractors, have just been published by the British Engineering Standards Association. This publication is of considerable interest to all those engaged in industries where drawings are used. Considerable care has been expended by the Committee in its preparation, so that no hardship should fall on any firms, should the recommendations contained in the Report not be in strict accordance with their usual practice. To cover this contingency, a "Note" has been included which suggests that purchasers should not enforce the manufacturer or contractor to make new drawings to comply with the B.E.S.A. recommendations if the latter already has old drawings and tracings in stock which would serve the purpose. The scope of the Report covers the overall sizes of tracing cloth and paper, position of drawing number, date and name, indication of scale, method of projection, types of lines and writing, dimension figures, relative importance of dimensions, indication of material on drawings, screw-threads, flats and squares and tapers, together with explanatory diagrams. It will quickly be recognised that any special convention relating to one particular industry has had to be avoided, if the Report was to be generally adopted, and for this reason many useful abbreviations and conventions common to one or more, but not common to all, have had to be dispensed with. Copies of the Report may be obtained from the British Engineering Standards Association, 28, Victoria Street, London S.W.1., price 2*s.* 2*d.*

* * * *

NEW COMPANIES REGISTERED

AERO HIRE, LTD., 94, Old Broad Street, E.C.2.—Capital £1,000, in £1 shares. Objects: To establish, maintain and work lines of aeroplanes, seaplanes and taxi-planes and aerial conveyances, etc. Managing director, and chairman, V. Neville Dickinson.

BRITISH AIRSHIPS, LTD., 21, Northumberland Avenue, W.C.2.—Capital £2,000, in 1,750 ordinary "A" shares of £1 each and 5,000 ordinary "B" shares of 1*s.* each. Objects, to carry on in the United Kingdom and elsewhere, researches with a view to evolving and preparing designs of airships, aerial conveyances and aircraft of all kinds and the component parts thereof, etc. Directors: Comdr. C. W. B. Scobell, R.N. (retd.), Lieut. C. Lincolne Sutton, R.N. (retd.). Secretary: H. C. Jauer. Solicitors: Wildey, Wright & Co., Grecian Chambers, 19, Devereux Court, W.C.2.

* * * *

PUBLICATIONS RECEIVED

Aeronautical Research Committee Reports and Memoranda: *No.* 1089. (*Ae.* 268).—Full scale Test of Slot and Aileron Control on a Woodcock. By H. L. Stevens. B.A. Feb., 1927. Price 4d. net. *No.* 1091 (*Ae.* 270).—Wind Tunnel Tests with High Tip Speed Airscrews. The Characteristics of a Bi-Convex Aerofoil at High Speeds. By G. P. Douglas and W. G. A. Perring. February, 1927. Price 1*s.* net. *No.* 1093 (*Ae.* 272).—A Non-Dimensional Form of the Stability Equations of an Aeroplane. By H. Glauert. March, 1927. Price 6*d.* net. *No.* 1095 (*Ae.* 274).—Theoretical Relationships for an Aerofoil with Hinged Flap. By H. Glauert. April, 1927. Price 9*d.* net. H.M. Stationery Office, Kingsway, London, W.C.2.

Aluminium Data. The British Aluminium Co., Ltd., Adelaide House, King William Street, E.C.4.

Royal Air Force Cadet College Magazine. Vol. VII. *No.* 2. Autumn, 1927. Gale and Polden, Ltd., Aldershot.

American Aircraft Directory, 1927. *First Edition.* Aviation Publishing Corporation, Fisk Building, 250, W.57th Street, New York City, U.S.A. Price. Cloth bound $5; paper bound, $3.

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AERONAUTICAL PATENT SPECIFICATIONS

(*Abbreviations:* Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

APPLIED FOR IN 1926

Published September 29, 1927

16,462. R. ESNAULT-PELTERIE. Apparatus for testing physical properties of materials. (276,776.)
16,464. D. R. POBJOY. Joints of attachments of parts in engines. (276,777.)
20,842. F. G. DIAGO. Aircraft launching and landing apparatus. (269,126.)
32,681. J. F. MAYE. Engine and propeller group for aircraft. (276,872.)

APPLIED FOR IN 1927

Published September 29, 1927

9,923. G. C. LOENING. Amphibian airplane. (269,539.)
10,616. SIEMENS-SCHUCKERTWERKE GES. Means for connecting intersecting tubes for aircraft construction. (269,901.)
10,833. D. R. POBJOY. Lubrication of i.c. engines. (276,918.)
15,575. G. CAPRONI. Disposition of engines on aeroplanes. (272,902.)

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